

A REVISION OF THE GENUS *AGONOCRYPTUS*

(HYMENOPTERA: ICHNEUMONIDAE)

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Agonocryptus Cushman, 1929, belongs to the tribe Gabuniini of the subfamily Mesosteninae. It was originally proposed for *Mesostenus discoidaloides* Viereck, 1905, from Kansas, U.S.A., which happens to be the only Nearctic species to date under the genus. The genus, however, is widespread in the Neotropical Region. In addition to the type-species mentioned above, Cushman (1929) also placed *Mesostenus (Mesostenus) chichimecus* Cresson, 1873 from Mexico and *Cryptus heathi* Brues, 1912 from Brazil under this genus. Subsequently five additional species were transferred to it: *Mesostenus (Mesostenus) admirandus* Cresson, 1873 from Mexico by Townes (1946), *M. varus* Brullé, 1846 from Guiana, and *M. physocnemis* Brullé, 1846, *M. luxuriosus* Taschenberg, 1876, and *M. violascens* Taschenberg, 1876 from Brazil, by Townes and Townes (1966). They also synonymized *M. luxuriosus* with *physocnemis*. Thus a total of seven species are so far known from the Nearctic and Neotropical regions.

In the present paper 18 new species and 6 new subspecies are described from the Neotropical Region. The types of all but those of Taschenberg and one of Brullé (*physocnemis*, supposedly lost) have been studied. *A. violascens* (Taschenberg) is not included as I could not find diagnostic characters in the original description for inclusion in the key. *A. discoidaloides* is considered a subspecies of *chichimecus*. Thus a total of 24 species and 7 subspecies are treated in the present paper.

Genus *AGONOCRYPTUS* Cushman (fig. 1)

Agonocryptus Cushman, 1929. Proc. U. S. Natl. Mus., 74(16): 6.

Type: (*Mesostenus discoidaloides* Viereck) = *chichimecus discoidaloides*; original designation.

Taxonomy: Townes and Townes, 1962: 502. Townes and Townes, 1966: 128.

Body 8-18 mm. long. Clypeus small, its basal half convex and apical portion flattened, its apical margin truncate, with or without a median tooth. Mandible short, narrow apically, its lower tooth always longer than the upper. Face usually trans-striate. Occipital carina may or may not reach hypostomal carina. Mesoscutum smooth, punctate or rugoso-punctate. Epomia present or absent. Sternaulus weak, reaching middle coxa. Prepectal carina usually 0.8 to 0.9 the height of mesopleurum (except in *A. admirandus* Cresson, where it is only 0.5 the height of mesopleurum). Pleural carina of propodeum absent. Apical transverse carina complete or interrupted medially. Basal transverse carina always

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complete and evenly arched. Propodeal spiracle small, roundish. Propodeum between the two transverse carinae variously sculptured. Areolet small, pentagonal to rectangular (wider than high), sometimes a little trapezoidal. Nervellus always basad of basal vein. Second recurrent vein meeting areolet at its middle to apical 0.33. Nervellus intercepted at its middle to upper 0.33. Petiole stout to slender, in female 2.0 to 3.0 as long as its apical width, its sternite 0.4 to 0.75 the length of first tergite. First tergite without sub-basal lateral triangular tooth. In *bicolor* with a ventrolateral tooth on either side. Dorsolateral carina of first tergite usually absent, sometimes in traces near its base. First tergite smooth and shiny, impunctate to strongly punctate. Second tergite impunctate to punctate. Ovipositor tip usually with six teeth. Tip of lower valve of ovipositor with a dorsal lobe enclosing the upper valve.

Hosts: Host records are known only for *Agonocryptus chichimecus*. *Podosesia syringae*, *Eupogonius vestitus* and *Psyrassa unicolor*, are the hosts of *A. chichimecus discoidaloides*, and *Aerenicopsis championi* of *A. chichimecus chichimecus*.

Six species groups are recognized, based on the sculpture of frons, vertex, and mesoscutum, length of petiole, and position of first abdominal sternite relative to the tergite.

List of species of *Agonocryptus* reported in the paper:

I. The Chichimecus Group

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|-----|---|----------|
| 1a. | <i>chichimecus chichimecus</i> (Cresson) | Mexico |
| 1b. | <i>chichimecus discoidaloides</i> (Viereck) | U. S. A. |
| 2. | <i>bicolor</i> , new species | Mexico |
| 3. | <i>ruficrus</i> , new species | Mexico |
| 4. | <i>rufithorax</i> , new species | Brazil |
| 5. | <i>russulus</i> new species | Brazil |

II. The Physocnemis Group

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| 6a. | <i>physocnemis physocnemis</i> (Brullé) | Brazil, Argentina |
| 6b. | <i>physocnemis nigristernum</i> , new subspecies | Brazil, Argentina? |
| 7a. | <i>lioneli lioneli</i> , new subspecies | Argentina, Brazil |
| 7b. | <i>lioneli coxinota</i> , new subspecies | Ecuador |
| 8a. | <i>argentinus argentinus</i> , new subspecies | Central Argentina |
| 8b. | <i>argentinus tucumanus</i> , new subspecies | Northern Argentina |

III. The Heathi Group

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|----|-----------------------|--------|
| 9. | <i>heathi</i> (Brues) | Brazil |
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IV. The Varus Group

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|------|--|------------------------------|
| 10a. | <i>A. varus varus</i> (Brullé) | French Guinea, Panama |
| 10b. | <i>A. varus nigrifemur</i> , new species | Argentina |
| 11. | <i>A. rufigaster</i> , new species | Surinam |
| 12a. | <i>A. adustus adustus</i> , new subspecies | Peru, Brazil, Ecuador |
| 12b. | <i>A. adustus paulus</i> , new subspecies | Colombia, Ecuador |
| 13. | <i>A. gossypii</i> , new species | Brazil |
| 14a. | <i>A. leurosus leurosus</i> , new species | Brazil |
| 14b. | <i>A. leurosus flavosternum</i> , new subspecies | Paraguay, Argentina, Bolivia |

15. *A. erugatus*, new species Panama, Colombia

V. The Amoenus Group

16. *A. admirandus* (Cresson) Mexico
 17. *A. amoenus*, new species Brazil
 18. *A. bispotus*, new species Mexico
 19. *A. tricolor*, new species Brazil

VI. The Rugifrons Group

20. *A. rugifrons*, new species Argentina
 21. *A. mulleus*, new species Argentina
 22. *A. infuscatus*, new species Brazil
 23. *A. fumosus*, new species Brazil, Argentina

Group ?

24. *A. violascens* (Taschenberg) Brazil

KEY TO THE SPECIES GROUPS AND SPECIES OF AGONOCRYPTUS

1. Frons smooth and shiny, often with a few scattered punctures or dull impunctate (*argentinus*). First abdominal tergite impunctate, or with a few punctures subapically or apicolaterally. Vertex usually smooth and shiny, sometimes with a few minute punctures (in *heathi* vertex granulate and in *chichimecus* area behind ocelli punctate). 2
 Frons strongly punctate to rugoso-punctate. First tergite wholly closely punctate. Vertex punctate. (Face always rugoso-striate, epomia always absent). Rugifrons Group. 27
2. Prepectal carina extending only half the height of mesopleurum. Vertex and frons shiny, impunctate. Mesopleurum and metapleurum shiny with separated minute punctures. Propodeum striate. Mesoscutum with a few scattered punctures. First tergite shiny, impunctate. Petiole long, slender, in female nearly 3.0 as long as its apical width. First sternite 0.7 as long as petiole. Amoenus Group. Mexico. 16. *admirandus* (Cresson) (p. 31)
 Prepectal carina extending up to 0.8 the height of mesopleurum or up to the base of subtegular ridge. Vertex, mesopleurum, propodeum and abdominal tergites variously sculptured. 3
3. Mesoscutum punctate or rugoso-punctate. Vertex granulate or shiny with scattered minute punctures. Propodeum basad of basal carina punctate, sometimes punctures running into striations. 4
 Mesoscutum smooth and shiny, impunctate, sometimes only basally with a few punctures. Vertex shiny. Propodeum basad of basal carina shiny or with few punctures or fine striations. Body generally shiny. . . 16

- 4. Vertex dull granulose (sometimes appearing mat). Mesoscutum moderately punctate. Basal area of propodeum with yellow elongated mark. (Occipital carina joining hypostomal carina at a distance almost equal to the basal width of mandible. Lower portion of occipital carina wavy. Fore wing with dark band at apex and just before stigma. All abdominal tergites with yellow apical bands). Heathi Group. Brazil.

9. heathi (Brues) (p. 20)

Vertex (including ocellar area) polished and impunctate or area behind ocelli punctate. Mesoscutum punctate to rugoso-punctate. Basal area of propodeum without any yellow mark. 5

- 5. Mesoscutum (at least the middle lobe) strongly and densely punctate, punctures coalescing and tending to be rugose, or sometimes mat areas seen on lateral lobes. Tooth on apical margin of clypeus absent or minute. Occipital carina never touching hypostomal carina or in *chichimecus* very close or weakly touching. Basal flagellar segments rounded, not flattened. Apical transverse carina of propodeum usually complete and distinct or only medially interrupted. Male flagellum devoid of hairs and bristles (except for the regular minute pilosity). Nervellus intercepted at the middle, except in *rufithorax*. Chichimecus Group. 6

Mesoscutum punctate, punctures well separated, often with smooth areas in the middle and on lateral lobes. Tooth on apical margin of clypeus always present and distinct, though small. Occipital carina either meeting hypostomal carina or strongly bent inwards and coming very close to hypostomal carina but not touching it (*physocnemis*). Basal flagellar segments moderately flattened. Apical transverse carina of propodeum distinct only laterally and broadly interrupted medially. Male flagellum with small hairs and with stout small bristles in between. Nervellus intercepted above the middle. Physocnemis Group. . . . 11

(I. Chichimecus Group)

- 6. Thorax wholly reddish-brown, without any marks. Abdomen red or black with reddish marks. Face trans-striate. Clypeus laterally striate. Epomia absent or faintly indicated in middle of pronotal sulcus. . . . 7
- Thorax black with extensive yellow marks. Abdomen black with yellow bands, or reddish with yellow bands. Face dull or smooth in the middle, obliquely striate laterally. Clypeus shiny, without striations. Epomia present. 8

- 7. Areolet rectangular, closed, wider than high. Wings hyaline, without any brown marks. Abdomen dorsally black, with reddish brown marks. Nervulus intercepted above its middle. Brazil.

4. rufithorax, n. sp. (p. 13)

Arolet more squarish, as wide as high, second intercubitus unpigmented (areolet open), intercubiti convergent. Fore wing with fuscous marks medially and apically. Abdomen reddish-brown, without distinct black marks. Nervellus intercepted at its middle. Brazil.

5. russulus, n. sp. (p. 13)

8. Abdomen reddish-brown, with yellow apical bands. All coxae reddish-brown, rest of the legs yellowish-brown. Scape red. First abdominal tergite punctate centrally. Mesopleurum closely and deeply punctate. Mexico. 3. ruficrus, n. sp. (p. 12)
- Abdomen black, with yellow bands. Hind coxa black with yellow marks. Femora usually black marked, except in *A. chichimecus discoidaloides*. Scape black, with or without a white mark. First tergite smooth and shiny, or punctate apicolaterally. Mesopleurum with punctures which are quite separate (*A. bicolor*), or punctato-striate (*A. chichimecus*). 9
9. Frons smooth or with scattered punctures. First tergite stouter, bent medially and punctate apicolaterally. Mesopleurum punctate to rugoso-punctate. Metapleurum rugose to rugoso-punctate (punctate in smaller specimens). Apical propodeal carina broadly arched, complete or incomplete medially (in type of *chichimecus* complete and double bent medially). Hind femur reddish-brown or black dorsally and partly on the inner side. U. S. A. and Mexico.
1. chichimecus (Cresson) 10
- Frons rugulose. First tergite narrower apically, smooth, its base slender and with a pointed tooth on either side subbasally. Mesopleurum largely shiny, with minute punctures. Metapleurum punctate, punctures well separated. Apical transverse carina of propodeum broadly arched and very narrowly interrupted medially. Hind femur black dorsally. Mexico. 2. bicolor, n. sp. (p. 11)
10. Hind femur black-marked dorsally. Hind trochanters black-marked. Hind femur comparatively thicker in the middle. Mesopleural punctures often coalescing. Metapleurum more rugoso-punctate than punctate (sculpture similar to that of propodeum). Male with all abdominal tergites black-banded. Mexico.
- 1a. chichimecus chichimecus (Cresson) (p. 10)
- Hind femur and trochanters uniformly orange-brown (similar to tibia). Femur slender. Mesopleural punctures separated from each other. Metapleurum more punctate than rugose (sculpture weaker than that of propodeum). Male with apical abdominal tergites reddish. U. S. A.
- 1b. chichimecus discoidaloides (Vier.) (p. 11)
- (II. Physocnemis Group)
11. Occipital carina interrupted near hypostomal carina, bent inwards. Frons minutely punctate. Subapical flagellar segments not compressed, about 2.0 as long as wide. Rather stout species with yellow marks on thorax and second tergite. (Mark on pronotal collar in female interrupted medially). Brazil and Argentina.
6. physocnemis (Brullé) 12
- Occipital carina meeting hypostomal carina. Frons smooth. Subapical flagellar segments compressed, about as long as wide. Moderately stout species with thorax yellow marked, the pronotal mark complete, or slender species with reddish thorax. 13

12. Mesosternum white marked. First tergite basally reddish to yellow. Clypeal groove usually not black marked. Fore and middle coxae white or white-marked. . . . 6a. physocnemis physocnemis (Brullé) (p. 16)
 Mesosternum black, without white marks. First tergite basally black. Clypeal groove black marked. Fore and middle coxae black to largely black. 6b. physocnemis nigristernum, n. subsp. (p. 17)
13. Wings clear hyaline, only the apex of fore wing a little fuscous. Thorax black, marked with yellow. Mesopleurum minutely punctate and shiny. Ecuador, Brazil, and Argentina. . . . 7. lioneli, n. sp. 14
 Wings wholly purple-brownish or fore wing with brownish bands. Thorax largely red to largely black, without yellow marks. Mesopleurum punctate to punctato-striate. Argentina. . . . 8. argentinus, n. sp. 15
14. Hind coxa and middle coxa reddish-orange. Pronotal collar wholly yellow. Second and third abdominal tergites without yellow and black marks. Pronotum mostly punctate. Argentina and Brazil.
 7a. lioneli lioneli, n. subsp. (p. 17)
 Hind coxa and middle coxa yellow, with black marks. Yellow mark on pronotal collar interrupted. Second and third tergites without yellow or black marks. Pronotum mostly punctato-striate. Ecuador.
 7b. lioneli coxinota, n. subsp. (p. 18)
15. Wings wholly smoky brownish-black with a purple tinge. Mesopleurum largely punctate or in larger and darker specimens somewhat striate. Hind tibia black on apical 0.15 to 0.2. Scape and pedicel reddish-brown. Central Argentina. . . . 8a. argentinus argentinus, n. subsp. (p. 19)
 Wings hyaline. Fore wing with two brownish bands separated by a hyaline area. Mesopleurum striato-punctate. Hind tibia black on apical 0.35. Scape and pedicel black. Northern Argentina.
 8b. argentinus tucumanus, n. subsp. (p. 20)
16. First abdominal segment of female 2.0 to 2.4 x as long as its apical width, quadrangular in cross-section at subbasal region, its sternite extending up to 0.4 to 0.6 the length of tergite, usually to the level of spiracle. First sternite separated from its tergite by a ridge. First tergite with ventrolateral triangular projections at base (sometimes weak). Postgenal area evenly arched and not separated by a crease from the lower part of gena. Occipital carina not strongly deflected inwards and pointing towards base of mandible, away from hypostomal carina and touching it only in *gossypii*. Varus Group. 17
 First abdominal segment long and slender, in female 3.0 x as long as its apical width, rounded in cross-section at subbasal region, its sternite extending up to 0.75 the length of tergite. First sternite and tergite fused together, without any trace of ventrolateral carina except in *tricolor*, where ventrolateral projections are seen at base. Postgenal area somewhat flattened and widened and separated from the lower portion of gena by a crease (in profile view). Occipital carina deflected inwards either strongly or weakly, coming close to joining hypostomal carina or erased for a distance equal to the basal width of mandible.
 Amoenus Group. 25

(IV. Varus Group)

17. Abdomen impunctate and polished. First abdominal sternite short of the level of spiracle, 0.4 the length of tergite. Propodeum basad of basal carina smooth and shiny. Abdominal tergites sparsely hairy dorsally, except tips of seventh and eighth. Body rather stout. Panama and Colombia. 15. *erugatus*, n. sp. (p. 29)
- Abdomen with punctures, at least on second and third tergites laterally. First abdominal sternite extending up to the level of spiracle or slightly beyond it. Basal area of propodeum trans-striate (except in *adustus*). Fourth and following tergites rather uniformly hairy dorsally, with their margins fringed with hairs, especially seventh and eighth. Body slender. 18
18. Pronotum striate, particularly along the sulcus and along posterior margin. Pronotal collar and upper margin with scattered punctures. First sternite ending at the level of spiracle and 0.5 the length of tergite. Areolet 1.5 to 1.75 as wide as high. Brazil, Paraguay, Bolivia, and Argentina. 14. *leurosus*, n. sp. 19
- Pronotum punctate to mat. Pronotal collar sometimes smooth and polished. First sternite either ending at the level of spiracle or extending slightly beyond it, 0.5 to 0.6 the length of tergite. Areolet 1.25 to 1.5 as wide as high. 20
19. Mesosternum and middle coxa dorsally black. First tergite wholly reddish. Brazil. 14a. *leurosus leurosus*, n. subsp. (p. 28)
- Mesosternum with yellow marks. Middle coxa dorsally red. First tergite with apical and basal yellow marks and medially usually blackish, sometimes second tergite with blackish marks. Paraguay, Bolivia, and Argentina. 14b. *leurosus flavosternum*, n. subsp. (p. 28)
20. Thorax wholly yellowish-brown and abdomen from second segment onwards brownish-black. Wings tinged with fuscous brown. Male abdomen yellowish-brown, as is thorax. Flagellar segments not flattened and without long hairs. Small sized species. Brazil. 13. *gossypii*, n. sp. (p. 26)
- Thorax black with yellow marks. Abdomen reddish-brown. Wings clear hyaline, with or without fuscous patches. Basal flagellar segments in female usually flattened. Male flagellum usually with long hairs. 21
21. Propodeum largely smooth, with weak to indistinct striations, particularly on the basal area. Apical transverse carina indistinct, or if faintly indicated, more semicircular, like carinae bordering petiolar area. First sternite 0.6 the length of tergite, ending slightly beyond the level of spiracle. Fore wing with fuscous bands at middle and at its apex. Peru, Brazil, Ecuador, and Colombia. 12. *adustus*, n. sp. 22
- Propodeum largely strongly striate to rugoso-striate. Apical transverse carina distinct, strongly arched medially. First sternite 0.5 to 0.6 the length of its tergite. Fore wing with or without fuscous bands. 23

22. Face finely striate. First tergite, hind coxa, trochanters, and femur reddish-brown, without any marks. Hind tibia and tarsus yellow with fourth tarsal segment apically and fifth either partly or wholly brownish. Pronotal collar wholly yellow. Apex of fore wing very lightly fuscous. Basal flagellar segments flattened (as usual). Size 8-14 mm. Peru, Brazil and Ecuador. 12a. adustus adustus, n. subsp. (p. 25)
- Face smooth and shiny, without striations. First tergite apically and basally yellow. Hind coxa, femur and trochanters reddish-brown with fuscous marks. Apex of hind femur blackish. Hind coxa with a dorsal yellow line. Hind tibia and tarsus yellow, but fourth and fifth tarsal segments black. Apical fuscous mark on fore wing more conspicuous. Yellow mark on pronotal collar interrupted medially. Basal flagellar segments not conspicuously flattened. Size 10 mm. Colombia and Ecuador. 12b. adustus paulus, n. subsp. (p. 26)
23. Propodeum strongly rugose medially. Petiolar area with vertical striations. First sternite extending beyond the level of the spiracle, 0.6 the length of its tergite. Pronotum irregularly punctate, the groove along its hind margin wrinkled. Areolet rectangular, about 1.5 as wide as high. Mesoscutum with yellow crescentic mark on side of lateral lobe. Yellow mark on pronotal collar interrupted medially. Surinam.
11. rufigaster, n. sp. (p. 23)
- Propodeum striate. Petiolar area of propodeum smooth to dull mat. First sternite ending at the level of spiracle. Pronotum with minute punctures, shiny, the groove along its hind margin smoother. Areolet more squarish, about 1.2 as wide as high. Lateral lobes of mesoscutum without any yellow marks. Yellow mark on pronotal collar not interrupted medially. 10. varus (Brullé) 24
24. Femora yellowish-brown. Yellow mark on pronotal collar interrupted medially. Abdomen yellowish-brown. French Guiana and Panama.
10a. varus varus (Brullé) (p. 22)
- Fore and middle femora ventrally and hind femur wholly black. Pronotal collar wholly yellow. Abdomen reddish-brown. Argentina.
10b. varus nigrifemur, n. subsp. (p. 23)
- (V. Amoenus Group)
25. Occipital carina making a right angle with hypostomal carina, strongly deflected towards base of hypostomal carina, away from the base of mandible by 1.5 the basal width of mandible. Abdomen smooth and shiny, impunctate. Tergites without hairs. Basal area of propodeum with conspicuous semicircular striations. Brazil.
17. amoenus, n. sp. (p. 32)
- Occipital carina normal, making an angle of less than 45° with the hypostomal carina and joining it. Occipital carina not deflected towards base of hypostomal carina, running towards base of mandible, but often erased (except in *tricolor*, in which propodeum smoother). Abdomen with setiferous punctures and apical tergites hairy. Basal area of propodeum without striations, often punctate laterally. 26

26. *Epomia* present. Propodeum apicad of basal carina with strong striations and punctures in between. Abdomen banded with black and yellow.
Mexico. 18. bispotus, n. sp. (p. 33)
- Epomia* absent. Propodeum with broken to indistinct striations apicad of basal transverse carina. Abdomen reddish, without stripes. Brazil.
19. tricolor, n. sp. (p. 34)

(VI. Rugifrons Group)

27. Wings hyaline. Face strongly rugose in the middle. Clypeus granulose with a few punctures. Thorax black, with yellow marks. Abdomen reddish-brown or body wholly reddish-brown. 28
- Wings strongly infusate. Face rugoso-striate. Clypeus finely striate. Thorax reddish-brown, without any marks. Abdomen black with reddish marks. 29
28. Thorax black with yellow marks. First tergite white apically. Tarsal segments of middle leg reddish-brown to brownish-black. First tergite closely punctate. Occipital carina meeting hypostomal carina.
Argentina. 20. rugifrons, n. sp. (p. 35)
- Body wholly reddish-brown. First tergite apically not white. Tarsal segments of middle leg white. First tergite only centrally with sparse punctures. Occipital carina not meeting hypostomal carina.
Argentina. 21. mulleus, n. sp. (p. 36)
29. Occipital carina not meeting hypostomal carina. Face reddish-brown, without yellow orbital rings. Apical 0.6 of first tergite and hind femur black. Second and third tarsal segments of hind leg yellow. Brazil.
22. infuscatus, n. sp. (p. 36)
- Occipital carina meeting hypostomal carina. Face black, with broken yellow orbital rings. First tergite, hind coxa and hind femur reddish-brown. In addition to second and third segments, the apical 0.6 of first tarsal segment of hind leg yellow. Argentina and Brazil.
23. fumosus, n. sp. (p. 37)

I. THE CHICHIMECUS GROUP

This group is characterized by having the frons smooth; vertex generally smooth with minute scattered punctures or punctures closer behind ocelli; occipital carina almost touching to widely separated from hypostomal carina, not deflected inwards; tooth on apical margin of clypeus absent or minute; basal flagellar segments of female antenna not compressed; flagellar segments in male devoid of long hairs (males of only *chichimecus* and *russulus* are known); pronotum striate to striato-punctate; epomia absent or present; mesoscutum strongly to densely punctate; punctures coalescing and tending to be rugose; propodeum punctate basally, rugoso-striate medially, its apical transverse carina present, complete or broken medially; abdomen strongly punctate. The nervellus is intercepted at the middle, except in *rufithorax*.

This group includes five species: *A. chichimecus* (Cresson) from the U.S.A. and Mexico, and four new species, *bicolor* and *ruficrus* from Mexico and *rufithorax* and *russulus* from Brazil (maps 1, 2).

A. chichimecus and *bicolor* are distinctive by the absence of tooth on

clypeal margin and by the presence of epomia. The body is marked with yellow. They can be differentiated among themselves by the nature of frons, apical transverse carina of propodeum, shape and punctation of first tergite, and by the color of hind leg. *A. rufithorax* and *A. russulus* are distinctive in having reddish thorax and abdomen, without yellow marks, meso- and metapleurum punctate, clypeal margin with a minute tooth, and by the absence of epomia. They can be differentiated among themselves by the nature of areolet, markings on wings, and by the position of nervellus. *A. russulus* is the only species with fuscous marks on the fore wing in the female. *A. ruficrus* has many characters in common with *A. chichimecus* and *bicolor*, but abdomen is reddish-brown, coxae reddish-brown, and clypeal margin with a minute tooth.

1. AGONOCRYPTUS CHICHIMECUS (Cresson)

Female: Face shiny with a few trans-striations below antennal sockets to granulose with submedian oblique striations. Clypeus shiny, without any punctures or striations, its apical margin truncate, without a median tooth. Malar space granulose, nearly equal to the basal width of mandible. Temple shiny, impunctate. Frons shiny, with a few fine superficial punctures in ocellar area. Vertex shiny, closely punctate behind ocelli. Occipital carina close to hypostomal carina and separated from it by a distance equal to 0.25 to 0.5 the basal width of mandible. Pronotum punctate to striate, its hind margin and pronotal sulcus striate. Epomia present, strong or weak. Mesoscutum closely and deeply punctate. Prepectal carina reaching subtegular ridge. Scutellum sparsely punctate. Mesopleurum punctate to rugoso-punctate, punctures close (punctate in smaller specimens). Metapleurum rugose to rugoso-punctate. Apical transverse carina of propodeum broadly arched, complete or incomplete medially. Propodeum strongly punctate to rugoso-punctate, centrally more rugose, its petiolar area with irregular striations or longitudinal ridges. Areolet trapezoidal to pentagonal (first intercubitus shorter than the second). Second intercubitus pigmented or unpigmented. Second recurrent vein meeting areolet at its apical 0.4 to 0.3. Nervellus intercepted at its middle. Petiole stout, its sternite reaching the spiracle. First tergite shiny, punctate dorso-laterally. Second and third tergites wholly closely and finely punctate. The following tergites punctate. Ovipositor 0.6 to 0.7 the length of abdomen.

Two subspecies, *A. chichimecus chichimecus* (Cresson) and *A. c. discoidaloides* (Viereck) (*New Status*) are recognized.

1a. AGONOCRYPTUS CHICHIMECUS CHICHIMECUS (Cresson)

Mesostenus (Mesostenus) chichimecus Cresson, 1873. Proc. Acad. Nat.

Sci. Philadelphia, 1873: 155. ♀. key, des. Lectotype: ♀, Mexico:

Orizaba (Philadelphia). Mexico: Cordoba. Type examined.

Mesostenus chichimecus: Cresson, 1916. Mem. Amer. Ent. Soc., 1: 23.

Lectotype designation.

Agonocryptus chichimecus: Cushman, 1929. Proc. U. S. Natl. Mus.,

74(16): 7. syn. Townes, 1946. Bol. Ent. Soc. Venezolana, 5: 34.

Townes, 1966. Mem. Amer. Ent. Inst., 8: 128.

Male and Female: Punctures on mesopleurum often coalescing. Metapleurum rugoso-punctate. Hind femur thicker than in *discoidaloides*. Black, with yellow marks and bands on abdomen. Face, clypeus, labrum, a mark on base of mandible, orbital ring, temple broadly, a mark on mesoscutum, scutellum, metascutellum, propleurum, upper margin of pronotum, pronotal collar completely or interrupted medially, tegula, subtegular ridge, speculum,

a large mark covering most of mesopleurum, mesosternum large, a mark below wings, metapleurum, and a dagger-shaped mark on petiolar area of propodeum, yellow. Wings hyaline. Legs yellow. Fore femur ventrally and fore tarsus brown. Hind coxa basally and with an oblong mark dorsally, trochanters partly, and femur dorsally, black. First tergite apically and basally, and the following tergites apically and laterally yellow.

Length: 11-16 mm. Fore wing 8-12 mm.

Specimens examined: 22♀, 4♂. *Mexico:* Orizaba, 1♀ (lectotype). *Mexico:* Cordoba, 1♀ (labelled paratype). [Specimens bear label only as Mexico. Locality data are in the original descriptions]. *Mexico:* 1♀ (paratype, Washington). *Mexico:* San Rafael, Jocoltepec, 1♀. Ticul Yucatan, 3♀, June 1969, CIBC, *ex* Cerambycid on *Eupatorium odoratum*. Vera Cruz, 3♀, 2♂, *ex* *Aerenicopsis championi*, Krauss, No. 5776. Vera Cruz, Ver., 6♀, May 1959, N. L. H. Krauss: 1♀, June 1955, *ex* *Aerenicopsis championi*. Ma Cambo, Vera Cruz, Ver. 1♀, June 1965, N. L. Krauss *ex* *Aerenicopsis championi* in branch of *Lantana camara*. Vera Cruz., Ver., 4♀, 2♂, May 1955, *ex* *Aerenicopsis championi* burrows in *Lantana camara* (all Washington).

Host: *Aerenicopsis championi*.

Distribution: Mexico.

1b. AGONOCRYPTUS CHICHIMECUS DISCOIDALOIDES (Viereck), new status

Mesostenus discoidaloides Viereck, 1905. Trans. Kansas Acad. Sci., 19: 319. ♀. Type: ♀, Rock Creek, 900 ft., Douglas Co., Kansas (Lawrence).

Agonocryptus discoidaloides: Cushman, 1929. Proc. U. S. Natl. Mus., 74(16): 6. Townes and Townes, 1962. Bull. U. S. Natl. Mus., 216(3): 502. des., fig.

Female: Punctures on mesopleurum a little separated from each other. Metapleurum more punctate than rugose. Clypeal groove and base of clypeus usually black. Second intercubitus pigmented. Hind femur and trochanters uniformly orange brown.

Male: Slender. Structure similar to that of female except that pronotum is shiny, without striations or punctures and punctation of mesopleurum and metapleurum a little sparse and superficial. Apical abdominal tergites usually reddish. First abdominal tergite basally black. Hind tibia apically darker. (In *chichimecus chichimecus* all abdominal tergites are black, banded with yellow.)

Length: 10-18 mm. Fore wing 6-14 mm.

Specimens examined: U. S. A.: *Alabama* (Gulf Shores). *Florida* (Key Largo, Larkins, Paradise Key, Tarpon Springs). *New Jersey* (Moorestown). *New York* (Farmingdale). *North Carolina* (Wake Co.). *South Carolina* (McClellanville). *Wisconsin* (Milwaukee).

Hosts (From Carlson's Catalog): *Podosesia syringae*, *Eupogonius vestitus*, *Psyrassa unicolor*.

Distribution: U. S. A.: Southeastern United States, Texas, Kansas, and some localities in Midwestern States. Distributional Map 288 in Townes and Townes, 1962.

2. AGONOCRYPTUS BICOLOR, n. sp.

Female: Face centrally smooth and shiny, laterally with a few oblique

striations. Clypeus smooth and shiny, its apical margin truncate, without a median tooth. Malar space granulose, 1.0 the basal width of mandible. Temple shiny, impunctate. Frons rough or rugulose, a little densely rugulose in ocellar area. Vertex medially punctate. Occipital carina close to hypostomal carina and separate from the latter by a distance about half the base of mandible. Pronotum punctate above, striate in the sulcus, striate along margins. Epomia present. Mesoscutum deeply and closely punctate. Prepectal carina reaching close to subtegular ridge. Mesopleurum minutely punctate, with shiny areas between punctures. Area below subtegular ridge with a few striations. Metapleurum punctate, punctures well separated. Propodeum with narrowly interrupted apical transverse carina which is strongly curved submedially. Basal area of propodeum striato-punctate. Area between the two transverse carinae punctato-striate. Petiolar area punctate, with a few longitudinal ridges. Areolet pentagonal. Second recurrent vein meeting areolet in the middle. Nervellus intercepted at its middle. Petiole moderately stout, its base slender and with a ventro-lateral tooth on either side. First sternite reaching apical 0.4 of petiole. First tergite smooth and shiny, with a few scattered punctures. Second and the third tergites basally and medially closely and deeply punctate. The following tergites finely mat.

Black, with yellow marks and bands. Face, broad orbital rings, clypeus except margins, temple, base of mandible, and labrum, yellow. A mark on upper margin of pronotum, pronotal collar, mark on propleurum, central mark on mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a large mark covering most of mesopleurum, mesosternum, a mark below wings, metapleurum, and an inverted T-shaped mark on petiolar area of propodeum, yellow. Legs yellow with black marks. Fore femur dorsally and tarsus brownish. Middle coxa ventrally with a basal black mark. Middle femur and tibia ventrally, and tarsus, brown. Hind coxa basally and dorsally black marked. Trochanters and femur dorsally black. Wings hyaline. First tergite apically and the following tergites apically and laterally, yellow.

Male: Unknown.

Length: 15 mm. Fore wing 12 mm.

Holotype: ♀, *Mexico:* Oaxaca, Metate, 85 kilometers south of Tuxtepec, 9000 m., Oct. 20, 1962, H. & M. Townes (Townes).

Distribution: Mexico (map 1).

3. AGONOCRYPTUS RUFICRUS, n. sp.

Female: Face dull, with a few punctures and oblique striations submedially. Clypeus dull, its apical margin with a minute tooth. Malar space granulose, 0.9 the basal width of mandible. Temple shiny, impunctate. Frons with a few minute scattered punctures. Vertex with fine punctures in ocellar area. Occipital carina close to hypostomal carina and separated from it by a distance of 0.25 the basal width of mandible. Pronotum deeply punctate, its hind margin and sulcus with striations. Epomia present, though not complete. Mesoscutum closely and deeply punctate. Scutellum deeply but sparsely punctate. Mesopleurum closely and deeply punctate. Metapleurum with irregular punctures, punctures close and deep. Propodeum rugoso-punctate to rugose, its apical transverse carina broadly interrupted medially. Areolet slightly trapezoidal, second recurrent vein meeting areolet at its apical 0.4. Nervellus intercepted at its middle. Petiole stout, its length less than 2.0 the apical width of first tergite, its sternite reaching the spiracle. First tergite punctate centrally. Second and third tergites closely punctate. The following tergites finely mat. Ovipositor 0.9 the length of abdomen.

Black with yellow marks. Abdomen reddish with yellow bands. Scape reddish-brown. Face, clypeus except its apical margin, labrum, base of mandible, broad orbital rings, and temple, yellow. Upper margin of pronotum, pronotal collar, propleurum, a mark on mesoscutum, scutellum, metascutellum, tegula, subtegmental ridge, speculum, mesopleurum broadly, mesosternum, area below wings, metapleurum wholly, and a large dagger-shaped mark on propodeum extending up to basal transverse carina, yellow. Wings slightly clouded apically. Legs reddish-yellow. First tergite apically and basally, and the following tergites apically, with yellow bands.

Male: Unknown.

Length: 16 mm. Fore wing 12 mm.

Holotype: ♀, [Baja California, Mexico]: San Jose del Cabo (Washington).

Distribution: Mexico (map 1).

4. *AGONOCRYPTUS RUFITHORAX*, n. sp.

Female: Face granulate with striations submedially and a few scattered punctures laterally. Clypeus granulate, laterally finely striate, its apical margin with a minute median tooth. Malar space obliquely aciculate, 0.8 the basal width of mandible. Temple smooth and shiny. Frons shiny, with fine punctures close to ocelli. Vertex shiny, with a few fine superficial punctures. Occipital carina directed towards base of mandible and separated from the latter by a distance about equal to the basal width of mandible; this area finely striate. Pronotum striato-punctate, its hind margin striate. Epomia absent. Mesoscutum closely and deeply punctate. Scutellum with fine, deep punctures. Prepectal carina reaching subtegmental ridge. Mesopleurum and metapleurum closely and deeply punctate. Propodeum deeply punctate, punctures running into transverse striations. Petiolar area sparsely punctate, with a few lateral longitudinal ridges. Apical transverse carina present, but a little irregular submedially. Areolet rectangular, closed, wider than high. Second recurrent vein meeting areolet at its middle. Nervellus intercepted above the middle. Petiole moderately long, not very stout, 2.0 as long as its apical width, smooth and shiny and with a few fine superficial punctures. Second and third tergites closely and finely punctate. The following tergites finely mat. Ovipositor 0.7 the length of abdomen.

Brownish-red. Abdomen brownish-black. Interrupted orbital rings, basal half of clypeus, and labrum, yellow. Wings hyaline. Legs reddish-brown. Middle tibia lighter in color. Hind femur and tibia black. Hind tarsus yellow. Second and following abdominal tergites blackish with reddish-brown marks submedially.

Male: Unknown.

Length: 12-15 mm. Fore wing 8-10 mm.

Holotype: ♀, *Brazil*: Nova Teutonia, Santa Catarina, April 13, 1948, Fritz Plaumann (Townes).

Paratypes: 3♀, *Brazil*: Nova Teutonia, Santa Catarina, Feb. 1946 and Dec. 1970 (Townes). Nova Teutonia, 27° 11' B. 52° 23' L., 300-500 m., 1♀, Nov. 1966, Fritz Plaumann (Ottawa).

Distribution: Brazil (map 2).

5. *AGONOCRYPTUS RUSSULUS*, n. sp.

Female: Face and clypeus finely striate. Apical margin of clypeus truncate and with a minute median tooth. Malar space granulate, equal to the basal

width of mandible. Temple shiny. Occipital carina directed towards base of mandible and separated from the latter by a distance equal to the basal width of mandible; this area finely striate. Frons shiny and with a few superficial punctures. Pronotum punctate with a few oblique striations, its hind margin striate. Epomia absent. Mesoscutum, mesopleurum, and metapleurum punctate. Scutellum sparsely punctate. Propodeum basally rugoso-punctate, medially rugoso-striate. Petiolar area somewhat irregularly striate. Areolet squarish, as wide as high, intercubiti convergent, but second intercubitus largely unpigmented (areolet open). Second recurrent vein meeting areolet at its middle. Nervellus intercepted at its middle. First tergite slender, punctate apicolaterally, its sternite reaching the spiracle. Second and third tergites closely and finely punctate. The following tergites finely mat. Ovipositor 0.8 as long as the abdomen.

Reddish-brown. Median flagellar segments, a mark on labrum (and sometimes on clypeus), interrupted orbital rings, a mark on pronotal collar, upper edge of pronotum, tegula, and subtegular ridge, white. Ventral aspect of first trochanter of fore leg, and hind tarsus, white. Middle coxa and femur, hind coxa, trochanters, femur and tibia, and abdominal tergites apically, brownish. Wings hyaline and with brownish marks apically and medially.

Male: Antenna spinose, with small fine hairs inbetween. Face and clypeus finely striate, punctate inbetween. Frons granulose with fine transverse aciculations. Vertex shiny, sparsely superficially punctate. Pronotal collar sparsely superficially punctate, its groove shiny and without striations or punctures. Mesoscutum closely superficially punctate. Mesopleurum shiny. Metapleurum with a few superficial punctures. Apical and basal transverse propodeal carinae complete and strong. Basal area of propodeum close to spiracle irregularly punctate, its lateral area inbetween the two transverse carinae rugose and medially with a few trans-striations. Petiolar area shiny, with two longitudinal striate, one on each side of middle. Second recurrent vein meeting areolet at its apical 0.3.

Yellowish-brown. Tenth to fifteenth flagellar segments yellow. Face, clypeus, labrum, base of mandible, temple broadly, interrupted orbital rings, propleurum, pronotal collar, tegula, subtegular ridge, a mark on scutellum, fore coxa and trochanter, and hind tarsus yellow. Second and following abdominal tergites basally, hind tibia apically, and first hind tarsal segment darker. Wings hyaline.

Length: 10-15 mm. Fore wing 8-12 mm.

Holotype: ♀, *Brazil*: Santa Barbara, Minas Gerais, Serra do Caraca, Jan. 1970, Oliveira (Townes).

Allotype: ♂, Same locality and data as the type (Townes).

Paratypes: 3♀, 3♂. *Brazil*: Same locality as the type, 1600 m., 1♂, 1♀, Jan. 1970 and Feb. 1969, F. M. Oliveira. Guanabara, Represa Rio Grande, 1♀, March 1972, M. Alvarenga. Murique, Rio de Janeiro, Mangaratiba, 1♀, July, 1969, M. Alvarenga. S. J. Barreiro, Sao Paulo, Serra da Bocaina, 1650 m., 2♂, Nov. 1969, M. Alvarenga and Seabra (Townes).

Variations: Two males from Bocaina are a little darker than the others, especially the mesoscutum and pronotum.

Distribution: Brazil (map 2).

II. THE PHYSOCNEMIS GROUP

This group is characterized by having the frons smooth and shiny; vertex with a few scattered minute punctures behind ocelli; occipital carina meeting hypostomal carina or bent inwards and close to it but not actually touching it (*physocnemis*); clypeus with a median tooth along its apical margin; basal flagellar segments somewhat compressed; pronotum striate in middle and punctate along upper and hind margins; epomia present but not complete; mesopleurum punctate but punctures well separated; metapleurum punctate; propodeum basally strongly punctate; apical transverse carina distinct only laterally, broadly interrupted medially; and abdomen punctate. The male flagellum is beset with small hair with stout bristles in between. The nervellus is intercepted above the middle.

The Physocnemis Group includes three species: *A. physocnemis* (Brullé) from Brazil and Argentina; *A. lioneli* from Argentina, Brazil and Ecuador; and *A. argentinus* from Argentina. Each species has two subspecies (map 3).

A. physocnemis has its occipital carina bent inwards, coming close to the middle of hypostomal carina, but not meeting it, frons minutely punctate and subapical flagellar segments not compressed. In the other two species the occipital carina meets the hypostomal carina and the subapical flagellar segments are compressed. In *A. argentinus* the wings are either wholly purple-brownish or with blackish-brown bands on the fore wing. In *A. lioneli* the wings are hyaline or a little brown-tinged apically. The mesopleurum of *A. lioneli* is minutely punctate and shiny, while *A. argentinus* exhibits variations in having punctate to rugoso-punctate mesopleurum. These two species can be further differentiated by the color of abdomen and thorax.

6. AGONOCRYPTUS PHYSOCNEMIS (Brullé)

Female: Subapical flagellar segments not compressed, about 2.0 as long as wide. Face granulose, with a few punctures laterally; medially and submedially with fine trans-striations. Clypeus granulose, with a few impressions of punctures or a few trans-striations laterally, its apical margin with a median tooth. Malar space granulose. Temple shiny, finely granulose close to malar space. Frons shiny, with minute punctures. Vertex shiny, with a few scattered punctures behind ocelli. Occipital carina angularly bent and coming very close to hypostomal carina, sometimes bent portion erased and replaced by one or two striations. Pronotum deeply punctate. Pronotal collar finely and closely punctate. Pronotal sulcus with striations. Epomia absent. Mesoscutum punctate, with shiny areas in-between. Scutellum sparsely punctate, punctures superficial. Mesopleurum punctate, but punctures in yellow area not prominent. Area below subtegular ridge with a few trans-striations. Metapleurum punctate. Basal area of propodeum strongly punctate to punctato-striate. Propodeum medially rugoso-striate or punctato-striate. Apical transverse carina broadly interrupted medially. Petiolar area irregularly longitudinally striate. Areolet wider than high. Second recurrent vein meeting areolet at its middle. Nervellus intercepted at its upper 0.4. Petiole stout to very stout, its sternite 0.4 to 0.5 the length of petiole. First tergite shiny and with a few punctures. Second and third tergites with close and fine punctures. The following tergites finer and mat. Ovipositor 0.6 as long as abdomen.

Black, with yellow marks. Abdomen brown. Face, clypeus except its

apical margin, labrum, orbital rings, temple, propleurum apically, upper part of pronotum, interrupted mark on pronotal collar, a mark on mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a broad oblong mark on mesopleurum, a mark on mesosternum (present or absent), mark on metapleurum (except basal black band), and an inverted T-shaped mark on apical slope of propodeum, yellow. Wings hyaline. Fore and middle legs yellow with their coxae and femora ventrally black and tarsi brownish-black. Hind coxa, trochanters, and femur reddish-brown, tibia and tarsus yellow. First tergite black, with yellow marks at base and apex. (In subspecies *nigristernum* yellow only apically). The following tergites brown with the second tergite basally black and apically yellow. Sometimes third and fourth tergites also narrowly brownish-black basally and yellow apically.

Male: Antennal flagellum with small hairs and spines in between. Pronotum shiny, without punctures. Otherwise sculpture similar to that of the female.

Black with yellow marks. Resembles female with the following differences: Pronotal collar wholly yellow. Mesopleural mark larger. Mesosternum wholly yellow or wholly black. Wings hyaline. Fore and middle coxae and trochanters wholly white. Hind coxa black with yellow marks. Hind femur black, yellowish-brown basally. Hind tibia basally yellow and apically black. First tarsal segment black. Abdomen black with apical yellow bands.

Two subspecies are recognized: *Agonocryptus physocnemis physocnemis* (Brullé) and *A. physocnemis nigristernum*, n. subsp. Their chief difference is in the coloration of mesosternum and first tergite, as given in the key.

6a. AGONOCRYPTUS PHYSOCNEMIS PHYSOCNEMIS (Brullé)

Mesostenus physocnemis Brullé, 1846. In Lepeletier: Histoire Naturelle des Insectes. Hyménoptères, 4: 236. ♀. des. Type: ♀, Brazil (lost).

Mesostenus luxuriosus Taschenberg, 1876. Ztschr. f. die Gesam. Naturw. Halle, 48: 94. ♀. des. Type: ♀, Brazil: [Nova Friburgo] (Halle).
Synonymized by Townes, 1966.

Agonocryptus physocnemis: Townes, 1966. Mem. Amer. Ent. Inst., 8: 128.

Characterized as under the species and in the key. This subspecies is more reddish with fore and middle coxae white or white marked and mesosternum with white marks. The base of first tergite is reddish or yellow.

Length: ♀: 20-12 mm. Forewing 15-10 mm. ♂: 15-12 mm. Forewing 6-8 mm.

Specimens examined: 21♀, 8♂. *Brazil*: Linhares, Espirito Santo, 5♀, 6♂, Sept. 1972. Encruzilhada, Bahia, 980 m., 3♀, 1♂, Nov. 1974. Represa Rio Grande, Guanabara, 1♀, June 1967; 1♀, Oct. 1967; 1♀, Jan. 1968; 1♂, March 1972; 4♀, May 1972. Espirito Santo, Castelo, 1♀, Nov. 1976; all above collected by M. Alvarenga. Pedra Azul, Minas Gerais, 800 m., 1♀, Nov. 1970, F. M. Oliveira; 2♀, Nov. 1971, Nov. 1972, Seabra & Olivera (Townes).

Argentina: Corrientes, Las Marias, Ca. Virasoro, ♀, Nov. 10-15, 1969, C. C. Porter (Tucuman). One specimen shows some characters of *physocnemis nigristernum*. This one has not been designated paratype.

Distribution: Argentina, Northern Brazil (map 3).

6b. *AGONOCRYPTUS PHYSOCNEMIS NIGRISTERNUM*, n. subsp.

This subspecies is differentiated from the typical subspecies in having the first tergite basally black, clypeal groove black marked, mesosternum black, without yellow marks and fore and middle coxae black. Otherwise agrees with the typical subspecies. The two subspecies intergrade in Argentina and further study may reveal that the two segregats may not have yet assumed subspecific status.

Length ♀: 20-12 mm. Fore wing 15-10 mm. ♂: 10-15 mm. Fore wing 5-8 mm.

Holotype: ♀, *Brazil*: Campina Grande, (near Curitiba), Feb. 15, 1966, H. & M. Townes (Townes).

Allotype: ♂, same locality and data as the holotype (Townes).

Paratypes: 10♀, 6♂. *Brazil*: Same locality as the holotype, 1♂, Feb. 17, 1966, H. & M. Townes (Townes). Curitiba, 1♀, 1♂, Jan. 20-31, 1969, L. J. Stange. Nova Teutonia, Santa Catarina, 3♂, 9♀, collected on various dates from March to December by Fritz Plaumann. Floresta da Tijuca, Guanabara, 1♂, Apr. 1966, Alvarenga & Seabra (Townes). Nova Teutonia, 300-500 m., 1♀, Oct. 28, 1957; 1♀, Oct. 30, 1958, Fritz Plaumann (Ottawa).

Distribution: Southern Brazil, ?Argentina. (map. 3).

7. *AGONOCRYPTUS LIONELI*, n. sp.

Female: Subapical flagellar segments compressed, about as long as wide. Face and clypeus mat, with fine sparse punctures. Face with a few trans-striations in-between. Apical margin of clypeus with a median tooth. Malar space aciculate, equal to the basal width of mandible. Temple shiny. Frons shiny, impunctate. Vertex shiny, impunctate. Occipital carina touching hypostomal carina. Pronotum punctate to punctato-striate. Pronotal collar and upper part of pronotum with fine punctures. Pronotal sulcus with a few or more striations. Epomia faintly indicated. Mesoscutum shiny, its middle lobe sparsely punctate and lateral lobes closely punctate with shiny central areas. Scutellum with a few superficial punctures. Mesopleurum shiny, punctate to minutely punctate. Metapleurum with close and deep punctures. Basal area of propodeum punctate, its central area rugoso-striate. Propodeum between the two trans-carinae rugose and in the yellow area trans-striate to rugose. Petiolar area longitudinally striate. Areolet a little wider than high. Second recurrent vein meeting areolet at its middle or in its apical 0.4. Nervellus intercepted at its upper 0.4. Petiole stout. First sternite reaching up to the spiracle of first tergite. First tergite shiny, with or without a few fine punctures apicolaterally. Second and third tergites closely and finely punctate. The following tergites mat.

Two subspecies, *A. lioneli lioneli*, from Argentina and Brazil, and *A. lioneli coxinota*, from Ecuador, are recognized by the characters mentioned in the key.

7a. *AGONOCRYPTUS LIONELI LIONELI*, n. subsp.

Female: Pronotum largely punctate, only with a few striations in the pronotal sulcus. Punctures on mesopleurum fine and a little apart. Propodeum centrally rugose, but its yellow area mostly trans-striate. First tergite with a few fine punctures apicolaterally.

Black. Head and thorax black with yellow marks. Abdomen yellowish-brown to reddish-brown, with black and yellow marks. Face, clypeus except apical margin, labrum, temple, orbital rings, pronotal collar, upper part of pronotum, propleurum apically, a mark on mesoscutum, scutellum, meta-scutellum, tegula, subtegular ridge, speculum, a large oblong mark on mesopleurum, a mark on mesosternum, a mark below wings, a mark on metapleurum, and a dagger-shaped mark on the apical slope of propodeum, yellow. Wings hyaline, with brownish marks medially and apically. Legs yellowish. Fore coxa, trochanters, and femur ventrally black-marked. Middle coxa reddish-orange, and femur ventrally black. Hind coxa, trochanters, and femur reddish-orange, its tibia and tarsus yellowish-brown. Abdomen reddish-brown to brown. First tergite apically and basally yellow, black in the middle, laterally brownish-red. Second and third tergites without yellow and black marks.

Male: Flagellar segments hairy and with spines. Male more shiny than the female, with pronotum with a few punctures on the lower side only. Apical transverse carina of propodeum strong. Second abdominal tergite medially, and third only basally, punctate.

Black with yellow marks. Color of head and thorax similar to that of female except that yellow mark on pronotal collar is interrupted. Hind coxa black with white marks, its trochanters, femur and tibia reddish-brown, and tibia apically and first tarsus basally brown. Rest of hind tarsus white. Fore and middle coxae white with blackish marks baso-dorsally, trochanters yellow, darker dorsally, femora and tibiae yellowish-brown, and tarsi brownish. Abdominal tergites 1-3 basally black. Tergites 1-2 apically yellow. Rest of abdomen reddish-brown.

Length: 10-18 mm. Fore wing 7-13 mm.

Holotype: ♀, *Argentina:* Tucuman, 11 kilometers west of Las Cejas, March 9-April 11, 1968, Lionel Stange (Townes).

Allotype: ♂, Same locality and data as the holotype, (Townes).

Paratypes: 13♀, 25♂. *Argentina:* Same data as the holotype, but collected on different dates from February to April, 5♀, 21♂ (Townes). Positos, Salta, 1♀, 2♂, Jan. 1971, M. A. Fritz (Townes). *Brazil:* Colatina, Espirito Santo, 1♂, Oct. 1969, F. M. Oliveira. Bahbalha, Ceara, 400 m., 1♂, May 1969, M. Alvarenga (Townes). Santo Grande, 2♀, 1968, M. Fritz (Townes). *Argentina:* Corrientes, Las Marias, Ca Virasoro, 1♀, Nov. 10-15, 1969, C. Porter. Salta. Rte 34, 12 km. NE Urundel-Arroyo Riacho Seco, 2♀, July 24-29, 1978, Porter and Fidalgo (Porter). Salta, Rio Pescado Ca., 1♀, Feb. 19, 1959, Atmat Bennagar (Porter). Isla, Martin Garcia, 1♂, Jan. 1971, H. Zimmermann (Washington).

Distribution: Argentina and Brazil (map 3).

7b. AGONOCRYPTUS LIONELI COXINOTA, n. subsp.

Female: Pronotum mostly punctato-striate. Punctures on mesopleurum closer and deeper. Propodeum centrally rugose, including the yellow area. First tergite mostly impunctate.

Color similar to that of *lioneli lioneli*, except that the yellow mark on pronotum interrupted, middle and hind coxae yellow and black marked ventrally, second and third tergites with black subbasal and yellow apical marks.

Male: Unknown.

Length: 18 mm. Fore wing 12-13 mm.

Holotype: ♀, *Ecuador:* San Rafael, 200 m., 1930, Campos R. (Washington).

Distribution: Ecuador (map 3).

8. *AGONOCRYPTUS ARGENTINUS*, n. sp.

Female: Subapical flagellar segments compressed, about as wide as long. Face dull, weakly to moderately striate. Clypeus dull, mat with a few lateral striations. Malar space aciculate mat, 0.9 times the basal width of mandible. Frons dull, slightly protuberant in the middle. Temple shiny, impunctate. Vertex shiny, with a few minute scattered punctures. Occipital carina meeting hypostomal carina. Pronotum punctate. Pronotal sulcus striate. Epomia indistinct, sometimes faintly visible in the sulcus. Mesoscutum with scattered punctures on the middle lobe, its lateral lobes sparsely punctate with smooth central areas. Scutellum with scattered punctures, which are close in the apical half. Mesopleurum punctate to punctato-striate in larger and darker specimens. Metapleurum rugose to reticulato-rugose. Petiolar area of propodeum longitudinally striate. Apical transverse carina broadly interrupted medially. Areolet rectangular. Second recurrent vein meeting areolet at its middle or in apical 0.45. Nervellus intercepted at its upper 0.4. Petiole stout, its sternite reaching spiracle. Postpetiole with scattered punctures. Second and third tergites closely punctate. The following tergites finely punctate to mat. Ovipositor 0.6 to 0.7 as long as the abdomen.

Reddish-brown to black. Scape and flagellum reddish-brown to black. Flagellar segments 6-10 white. Head reddish-brown. Apex of mandible, malar space, temple medially, and area just below antennal sockets, black. Inner orbital rings, incomplete outer orbital rings, labrum, and a mark on clypeus, yellow. Thorax reddish-brown. Pronotal collar, middle lobe of mesoscutum medially, tegula, subtegular ridge, lower portion of mesopleurum, mesosternum, area behind wings, metapleurum, and propodeum dark brown. Sometimes pronotal collar, mesoscutum, mesopleurum, and mesosternum, reddish-brown. A specimen from Potrerillos, Mendoza, with thorax wholly black, while in some other specimens from Cordoba, thorax black with reddish marks on various parts. Wings smoky brownish-black with purple tinge or hyaline. Fore wing with broad apical and medial dark brown bands. Fore, middle and hind coxae, and trochanters reddish-brown, with a few fuscous marks. All femora and tibiae yellow with blackish marks on tibia apically. Fore and middle tarsi yellowish-brown. Hind tarsus black. Abdomen brownish-black to black, with first tergite lighter in color.

The specimens exhibit considerable variations in sculpture and color. However, two subspecies are recognized: *A. argentinus argentinus* from Central Argentina, and *A. argentinus tucumanus* from Northern Argentina.

8a. *AGONOCRYPTUS ARGENTINUS ARGENTINUS*, n. subsp.

Female: Mesopleurum punctate to striato-punctate in larger and darker specimens. Color exhibiting considerable variation as described under species description. Scape and pedicel reddish-brown. Femur and tibia yellow, sometimes darker but not reddish brown. Tibia black in apical 0.14 to 0.12. Wings smoky brownish-black and with a purple tinge.

Male: Unknown.

Length: 14-18 mm. Fore wing 10-13 mm.

Holotype: ♀, *Argentina*: Cordoba, Davis (Cambridge).

Paratypes: 4♀. *Argentina*: Cordoba, 3♀, W. M. Davis. Mendoza, Potrerillos, 1♀, Feb. 20, 1966, C. C. Porter (Cambridge).

Distribution: Central Argentina (map 3).

8b. AGONOCRYPTUS ARGENTINUS TUCUMANUS, n. subsp.

Female: Mesopleurum striato-punctate. Scape and pedicel black. Face black, with two small roundish marks just below antennal sockets. Inner orbits, outer orbits (interrupted), and clypeus except its apical margin, yellow. Thorax reddish-brown. Hind margin of pronotum, apical corner of scutellum, metascutellum, tegula, subtegular ridge, mesopleural area just below speculum, metapleurum, and central area of propodeum, brownish-black. Petiolar area yellowish-brown. Wings hyaline, dark brown medially and apically. Fore leg yellowish-brown, its coxa and first trochanter dorsally blackish. Middle coxa, trochanters and femur, reddish-brown, its tibia yellowish-brown and tarsus blackish. Middle coxa and trochanters with brownish marks. Hind coxa, trochanters, and femur reddish-brown, with brownish marks. Hind tibia yellow with its apical 0.35 black. Hind tarsus black. Abdomen black with basal 0.5 of first tergite yellowish-brown.

Male: Unknown.

Length: ♀, 17 mm. Fore wing 13 mm.

Holotype: ♀, *Argentina*: Tucuman, 11 kilometers west of Las Cejas, March 7-26, 1967, Lionel Stange (Townes).

Distribution: Northern Argentina (map 3).

III. THE HEATHI GROUP

This group is characterized by having a granulose vertex; closely punctate mesoscutum, with smooth areas in between; and strongly punctate metapleurum, with punctures stronger than on mesopleurum. The lower portion of occipital carina is wavy and it meets hypostomal carina at a distance equal to the basal width of mandible. It includes only one species, *Agonocryptus heathi* (Brues), which has an elongated yellow mark on basal area of propodeum and all abdominal tergites are with yellow apical bands.

9. AGONOCRYPTUS HEATHI (Brues)

Cryptus heathi Brues, 1912. Ann. Ent. Soc. America, 5: 196. ♀. des., fig. Type: ♀, Brazil: Guarabira (= "Independencia") in Paraiba (Cambridge).

Agonocryptus heathi. Cushman, 1929. Proc. U. S. Natl. Mus., 74(16): 7. Townes, 1966. Mem. Amer. Ent. Inst., 8: 128.

Female: Face with semicircular striations and fine scattered punctures. Clypeus with a few fine punctures. Malar space mat, equal to the basal width of mandible. Frons shiny, with a few fine punctures. Vertex granulose. Occipital carina wavy in the lower portion and meeting hypostomal carina at a distance equal to the basal width of mandible. Pronotum punctate. Epomia absent. Mesoscutum punctate, with shiny areas in between. Mesopleurum finely punctate. Metapleurum more strongly punctate than mesopleurum. Scutellum finely and sparsely punctate. Propodeum basally closely and deeply punctate, centrally rugoso-striate. Apical transverse carina complete. Areolet pentagonal. Second intercubitus not as strong as the first. Second recurrent vein meeting areolet at its apical 0.4. Nervellus intercepted at its upper 0.35. Petiolar area irregularly striate. Petiole stout, its sternite extending up to spiracle. Petiole and postpetiole shiny, with a few impressions

of punctures laterally. Second and third tergites closely and finely punctate, the following tergites finely mat.

Black. Thorax yellow marked. Abdomen yellowish-brown with yellow bands. Face yellow with a central triangular black mark. Malar space, apex of mandible, frons and vertex medially, black. Pronotal collar, upper edge of pronotum, a mark on mesoscutum, tegula, subtegular ridge, scutellum, meta-scutellum, an oblong mark on mesopleurum, a mark below wings, a mark on mesosternum, a broad mark on metapleurum, a small mark at the center of basal area of propodeum, and a dagger-shaped mark at the apical slope of propodeum, yellow. Hind coxa, trochanters, femur and tibia yellowish-brown, with tibia basally lighter and apically a little darker. Hind tarsus and a small mark on coxa dorsally, white. Fore and middle legs largely yellowish, with darker patches. Wings hyaline. Fore wing with dark band at apex and just before stigma. Abdomen yellowish-brown with apical yellow bands on tergites.

Length: 12 mm. Fore wing 8 mm.

Specimens examined: 2♀. *Brazil:* Independencia (Guarabira), Paraiba, 1♀ (type), Mann & Heath (Cambridge). *Brazil:* Caruaru, 900 m., 1♀, April, 1972, M. Alvarenga (Townes). This specimen exhibits slight variations from the type, with face more strongly striate, a small yellow mark on side of propodeum, and middle coxa with a small yellow mark.

Distribution. Brazil (map 2).

IV. THE VARUS GROUP

Related and rather similar to the *Amoenus* Group in having smooth frons, mesoscutum and vertex, but the occipital carina is not strongly deflected inwards, rather pointing towards base of mandible or towards apex of hypostomal carina, always away from it by varying distances (except in *gossypii*). Postgenal area not conspicuously flattened or widened, more uniformly arched with the lower part of gena. Basal flagellar segments in female flattened (less so in *adustus paulus*, and not so in *gossypii*). First abdominal segment not very slender, in female about 2.0 to 2.4 its apical width, and quadrangular in cross-section in subbasal region, its sternite extending up to the middle (level of spiracle), or slightly beyond it (0.4-0.6 length of tergite). *Epomia* absent (or faintly seen in *adustus paulus*).

The males have long hairs on flagellar segments (except in *gossypii*), each segment also usually with long spine-like stout seta amongst the hairs at the apex of segments, particularly from fourth flagellar segment onwards. Males of most species are similar looking and not very diagnostic. They are slender in build. They even resemble the males of the *Amoenus* Group.

A. gossypii is exceptional in many characters, particularly in having the occipital carina touching the hypostomal carina, and in other characters mentioned in parenthesis above. However, it fits better in this group than any where else.

This group includes *A. varus* (Brullé), and five new species: *gossypii*, *adustus*, *erugatus*, *leurosus* and *rufigaster*, all from the Neotropical Region. Of the species placed in this group, *A. erugatus* is rather stout with abdomen smooth and polished, hairs on apical tergites rather sparse dorsally, and fourth to sixth abdominal tergites without apical fringe of hairs. The propodeum basad of basal carina is smooth and shiny. *A. leurosus* has the pronotum striate and the areolet is rather wide, about 1.5-1.75 x as wide as high. *A. adustus* and *A. rufigaster* have the first abdominal sternite extending up to 0.6 the length of tergite, but in *adustus* the propodeum basad of basal carina

is polished with only a few punctures or weak striations and apical transverse carina of propodeum is indistinct, while in *rufigaster* the propodeum is striate basally and rugose in the central yellow area and the apical transverse carina is distinct. The petiolar area is with vertical striations. *A. varus* has the first sternite ending at the level of spiracle, propodeum striate medially rather than rugose, petiolar area mat, wings without fuscous marks, pronotum mat, and areolet more squarish. Otherwise it comes close to *rufigaster* in the sculpture of basal area of propodeum and in the shape of apical transverse carina of propodeum. *A. gossypii* is rather distinctive. It is a small sized species, with occipital carina meeting hypostomal carina, and flagellar segments not flattened and without long hairs.

10. AGONOCRYPTUS VARUS (Brullé)

Female: Face with fine trans-striations. Clypeus with a few fine striations laterally. Malar space finely aciculate, equal to the basal width of mandible. Temple close to the malar space with a few fine aciculations. Frons dull, without punctures. Temple and vertex shiny, impunctate. Occipital carina away from hypostomal carina by a distance equal to 0.5 the basal width of mandible. Pronotum smooth, with scattered punctures, groove along its hind margin smooth. Mesoscutum, scutellum, mesopleurum and metapleurum shiny, with minute setiferous punctures. Basal area of propodeum finely striate. Central area of propodeum between the basal and apical transverse carinae trans-striate. Apical transverse carina strongly arched medially. Petiolar area smooth to dull, mat. Areolet more squarish, about 1.2 as wide as high; second recurrent vein meeting in its middle. First abdominal segment 2.2 as long as its apical width; its sternite ending at the level of spiracle, about 0.5 the length of its tergite. All abdominal tergites dull, with hairs, which become denser on apical tergites. Second abdominal tergite punctate medially and third at base. Ovipositor about 0.72 the length of abdomen.

Two subspecies are recognized: *A. varus varus* (Brullé) and *A. varus nigrifemur*, n. subsp., based upon the color of legs, pronotal collar and abdomen, as given in the key.

A specimen from Jamaica (from Washington Museum) is damaged and has a reddish thorax and black abdomen, and probably represents a distinct subspecies. It is not named because of its damaged condition.

10a. AGONOCRYPTUS VARUS VARUS (Brullé)

Mesostenus varus Brullé, 1846, *In* Lepeletier: Histoire naturelle des Insectes, Hyménoptères, 4: 235. ♀. des. Type: ♀, "Guyana" (Paris).

Agonocryptus varus: Townes, 1966, Mem. Amer. Ent. Inst., 8: 128.

Female: Black with yellow marks; abdomen yellowish-brown. Face, clypeus (except apical margin), labrum, orbital rings, a mark on mesoscutum, scutellum, metascutellum, pronotal collar, upper part of pronotum, propleurum, tegula, subtegular ridge, speculum, a mark below wings, a large oblong mark on mesopleurum, a mark on metapleurum, and a dagger-shaped mark on apical slope of propodeum, yellow. Legs yellow, with hind coxa, trochanters and femur brownish. Fore coxa with a black mark at base ventrally. Wings hyaline, without fuscous marks.

Male: Face transversely striated. Clypeus shiny. Malar space granu-

lose, slightly less than the basal width of mandible. Temple close to the malar space with a few fine aciculations. Frons dull without punctures. Temple and vertex shiny, impunctate. Occipital carina reaching the hypostomal carina. Pronotum smooth, its upper part with close superficial punctures, its hind margin punctate with a few striations. Mesoscutum, scutellum, mesopleurum and metapleurum shiny, with minute setiferous punctures. Basal area of propodeum striate; central area of propodeum between basal transverse and apical transverse carinae trans-striate. Apical transverse carina strongly arched medially. Petiolar area longitudinally striate. Areolet slightly wider than high; second recurrent vein meeting at its middle. First abdominal tergite 3.5 x its tergite. Abdominal tergites shiny. Second abdominal tergite medially and third basally punctate.

Black with yellow marks. Abdomen yellowish-brown, with black bands. Face, clypeus, labrum, base on mandible, temple, malar space, orbital rings, a mark on mesoscutum, scutellum, matascutellum, pronotal collar, pronotum, (except upper sulcus) propleurum, tegula, subtegular ridge, speculum, a mark below wing, lower part of mesopleurum, mesosternum, metapleurum and a dagger-shaped mark on apical slope of propodeum, yellow. Legs yellow. Fore femur and tibia dorsally with an elongate brown mark, third and fourth tarsal segments and claws black. Middle femur and tibia dorsally with an elongate brown mark, tarsus and claws black. Hind coxa and trochanters dorsally black marked, femur apically and apical 0.6 of tibia and apical 0.6 of basitarsus black. First abdominal tergite apically and basally and second to fifth abdominal tergites apically with yellow bands.

Length ♀: 16-20 mm. Fore wing 12-15 mm. ♂: 10-15 mm. Fore wing 6-12 mm.

Specimen examined: 3♀♀, 2♂♂. 1♀ (type), (Paris). The type has no locality label; only a green circular label, and an identification label. *Panama*: Barro Colo, Is., CZ, 1♀, June 1940, Zetek 4669 (Washington). Tobago Is., 1♀, Feb. 14, 1912, A. Busck Coll. (Washington). Tobago Is., 1♂, Feb. 24, 1912, 1♂, Feb. 23, 1912, A. Busck Coll. (Washington).

Distribution: Panama and "Guiana" (map 4).

10b. AGONOCRYPTUS VARUS NIGRIFEMUR, n. subsp.

Female: Pronotal collar wholly yellow. Mesosternum with yellow marks. Fore leg yellow, its coxa and femur black ventrally, and tarsus brownish. Middle coxa black with dorsal yellow mark, trochanters and femur black, tibia yellow, tarsus brownish. Hind coxa reddish-brown, darker ventrally, trochanters brown, femur black, tibia and tarsus yellow. Abdomen brown with blackish areas in middle of first, second, third, and fourth tergites.

Male: Unknown.

Length: 15 mm. Fore wing 10 mm.

Holotype: ♀, *Argentina*: Salta, Route 34, 12 kilometers northeast of Urundel-Arroyo Riacho Seco, July 24-29, 1978, Porter and Fidalgo (Porter).

Paratype: 1♀, *Argentina*: Salta, Rio Pescado, Ca Oran, May 23, 1970, C. Porter (Porter).

Distribution: Argentina (map 4).

11. AGONOCRYPTUS RUFIGASTER, n. sp.

Female: Face with fine trans-striations. Clypeus with a few fine striations laterally and centrally with a few punctures in between. Malar space

finely aciculate, equal to the basal width of mandible. Temple close to malar space with a few fine aciculations. Frons, vertex and temple shiny, impunctate. Occipital carina very close to hypostomal carina but not meeting it. Pronotum shiny, punctate, its hind margin smooth above, striate below. Middle lobe of mesoscutum only basally with a few punctures. Mesoscutum otherwise smooth and shiny. Scutellum, mesopleurum and metapleurum shiny with minute setiferous punctures. Basal area of propodeum finely striate; area above spiracle striato-punctate; central area of propodeum strongly rugose; petiolar area with vertical striations; apical transverse carina distinct, complete and strongly arched medially. Areolet 1.5 as wide as high. Second recurrent vein meeting at its apical 0.40. Nervellus intercepted at its upper 0.40. First abdominal segment 2.2 as long as its apical width, its sternite extending up to 0.6 its length. All abdominal tergites shiny, with hairs. Fourth tergite onwards with an apical fringe of hairs. Second and third tergites minutely and finely punctate. Ovipositor about 0.84 the length of abdomen.

Black, with yellow marks; abdomen yellowish-brown. General coloration similar to that of *A. varus*. Differences are: yellow mark on pronotal collar interrupted medially. Lateral lobes of mesoscutum with a crescentic mark. Fore wing infuscate centrally and apically.

Male: Similar to that of *A. adustus paulus* in structure and color and differs only in the lighter color of hind coxa and hind femur.

Length: 11-16 mm. Fore wing 8-13 mm.

Holotype: ♀, Surinam: Paramaibo, malaise trap, March 2-4, 1964, D. C. Geijskes (Townes).

Allotype: ♂, Surinam: 45 kilometers south of Paramaibo, Oct. 3-8, 1963, D. C. Geijskes (Townes).

Distribution: Surinam (map 4).

12. AGONOCRYPTUS ADUSTUS, sp. nov.

Female: Face granulose with submedian trans-striations or with a few punctures. Clypeus granulose with a few superficial punctures medially. Malar space granulose. Frons, temple and vertex shiny, impunctate. Occipital carina away from hypostomal carina by a distance equal to the basal width of mandible. Pronotum with scattered punctures, its scrobe long, hind margin wrinkled. Middle lobe of mesoscutum basally punctate. Mesoscutum otherwise smooth and shiny. Scutellum, mesopleurum, mesosternum and metapleurum mostly shiny and with a few minute setiferous punctures. Propodeum largely smooth, with weak to indistinct striations, particularly on the basal area; apical transverse carina indistinct, if faintly indicated, more semi-circular, like carinae bordering petiolar area. Areolet 1.3 to 1.4 as wide as high. Second recurrent vein meeting areolet at middle or in its apical 0.3. Nervellus intercepted at its upper 0.4. First abdominal segment 2.2 as long as its apical width, shiny; its sternite extending up to 0.6 the length of tergite. Second and third tergites with a few fine punctures basolaterally. The following tergites smooth and shiny. Fourth and following tergites rather uniformly hairy dorsally with their margins fringed with hairs, especially on seventh and eighth. Ovipositor 0.7 the length of abdomen.

Black, the head and thorax marked with yellow and abdomen reddish-brown. Head yellow except clypeal margin, malar space, mandible, frons and vertex medially, and whole of occiput, black. Pronotal collar wholly yellow or interrupted in the middle. Upper margin of pronotum, propleurum, a mark at

apex of middle lobe of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a mark behind hind wing, a broad and oblong mark on mesopleurum, a large mark on metapleurum, and an inverted T-shaped mark on apical slope of propodeum, yellow. Leg color as described under the subspecies. Wings hyaline with fore wing marked brown medially and apically. Abdomen wholly reddish-brown or first tergite with basal and apical yellow marks and second tergite apically yellow, bordered with black. Tip of abdomen fuscous.

Male: Rather thin and slender as compared to the female, with antennal segments with long hairs and a stiff seta at apex of each flagellar segment among the hairs. Body sculpture generally similar to that of female, but males show considerable variation. Face shallowly punctate to trans-striate. Frons smoother to punctate. Basal area of propodeum smooth to rough. Propodeum centrally striate to rugose. Apical transverse carina distinct.

Black. Antenna wholly black. Head yellow with mandible, frons and vertex medially and upper half of occiput, black. Thorax black with pronotal collar, upper margin of pronotum, propleurum, a mark at apex of middle lobe of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, area behind hind wing broadly, and oblong mark on meso and metapleurum, and petiolar area, yellow. Wings hyaline. Fore wing only apically lightly to moderately fuscous; fore and middle coxae and trochanters yellow, their femora, tibiae and tarsi yellowish-brown with middle tarsus blackish. Hind leg either wholly black with coxa encircled with white, or coxa, first trochanteral segment and femur reddish-brown. Abdomen either largely black with apices of first to third segments and sides of fourth to sixth segments yellow, or apical half of all tergites yellowish-brown; color of hind leg and abdominal tergites highly variable in the two subspecies described below.

Two subspecies are recognized, which have been keyed out along with the key to the species. *A. adustus adustus* occurs in Peru and at lower elevations in Brazil and Ecuador bordering Peru southeast of the high Andes running across Colombia and Ecuador. *A. adustus paulus* occurs on the Andes in Colombia and Ecuador and also west of the same at somewhat lower elevations.

12a. AGONOCRYPTUS ADUSTUS ADUSTUS, n. subsp.

Female: Face finely shagreened with trans-striations. Basal area of propodeum smooth and shiny, with a few fine punctures. Central area finely to moderately striate. Pronotum with minute punctures. Basal flagellar segments somewhat flattened.

General color as described under the species. Differences and variations are: Face with small lateral black marks just above clypeus in the paratypes. Yellow mark along pronotal collar complete. Mesosternum black. Speculum only with a small yellow mark. Sometimes apex of first tergite yellow. Fore and middle legs largely yellow with coxae blackish on their posterior sides, their second trochanteral segments and femora blackish-brown dorsally and apical tarsal segments brownish. (In one paratype the brownish mark on middle femur appears more ventral in position.) Hind coxa, trochanters and femur reddish-brown, tibia and tarsus yellow with fifth and sometimes fourth also, blackish-brown.

Male: Face shallowly striate; in one paratype smoother and with shallow punctures. Frons punctate to smooth. Propodeum basally smooth and shiny and centrally striate.

Mesosternum black, sometimes mesosternum yellow near middle coxa.

Hind leg wholly black or hind femur brownish-black. Fore wing of allotype darkly fuscous apically; other paratypes with lightly to darkly fuscous fore wing tip. Abdomen largely black with only apices of tergites brownish. Sometimes yellow marks on sides of thorax smaller.

Length: ♀, 8-14 mm. Fore wing 6-10 mm.

Holotype: ♀, *Peru:* Avispas, 30 m. nr. Marcapata, Sept. 1962, Luis Peña (Townes).

Allotype ♂, same data as the holotype, except collected on Oct. 1-15, 1962 (Townes).

Paratypes: 2♀, 5♂. *Peru:* Quincemil, 750 m, near Marcapata, 1♀, Nov. 1962; 3 ♂, Oct. 20-30, 1962. Avispas, 30 m. near Marcapata, 1♂, Sept. 1962, all collected by Luis Peña (Townes). *Brazil:* Jacareacanga, Para, 1♀, Dec. 1968, Moacir Alvarenga (Townes). *Ecuador:* Napo and Coca Rivers, 1♂, May 2-10, 1965, Luis Peña (Townes).

Distribution: Peru, and at lower elevations in Brazil and Ecuador (map 4).

12b. AGONOCRYPTUS ADUSTUS PAULUS, n. subsp.

Female: Basal flagellar segments not conspicuously flattened (exception, perhaps due to smaller sized specimens). Face shiny with a few scattered punctures, without striations; pronotum shallowly punctate and shiny. Propodeum shallowly striate in the middle. Otherwise smooth and shiny.

Black. Vertex with a Y-shaped yellow mark. Mesosternum with yellow marks. Yellow mark on pronotal collar interrupted medially. Fore and middle legs similarly colored. Coxae and first trochanteral segments whitish-yellow. Coxa ventrally black. Second trochanter, femur and tibia yellow, femur dorsally brownish-black; tarsus brownish. Hind coxa, trochanters and femur reddish-brown with fuscous marks, coxa with a dorsal yellow line, apex of femur blackish, tibia and tarsus yellow but fourth and fifth tarsal segments black. Apical fuscous mark on fore wing more conspicuous. First tergite apically and basally broadly yellow. Second tergite apically yellow, subapically black adjacent to the yellow mark.

Male: Face shallowly striate with a few punctures in between striations; frons and pronotum smooth and shiny; propodeum centrally rugoso-striate.

Black. Mesosternum largely yellow. Hind coxa and femur reddish-brown, trochanters and tibia black, tarsus either wholly black or third segment and sometimes second segment partly yellow. Sometimes hind femur brownish-black as is tibia and tarsus, but coxa always reddish-brown. Mesosternum at least partly yellow. Abdominal segments black basally and reddish-brown apically. First tergite yellow basally and apically and second tergite largely black. Color otherwise similar to that of *adustus adustus*.

Length: ♀, 10 mm. Fore wing 8 mm.

Holotype: ♀, *Colombia:* Cali, Oct. 1971, M. J. W. Eberhard (Townes).

Allotype ♂, same data as holotype (Townes).

Paratypes 8 ♂. *Colombia:* Cali, 3 ♂, same data as holotype. *Ecuador:* Santo Domingo, 680 m, 3 ♂, May 15-30, 1975, S. & J. Peck. Loja: Latoma, 1500 m, 2 ♂, Nov. 18-19, 1970, Luis Peña (Townes).

Distribution: Colombia and Ecuador (map 4).

13. AGONOCRYPTUS GOSSYPHII, n. sp.

Female: Face granulate with a few scattered punctures. Clypeus shiny,

impunctate, its apical margin without a median tooth. Malar space mat, 0.6 as long as the basal width of mandible. Temple, frons, and vertex shiny, impunctate. Occipital carina meeting hypostomal carina. Pronotum shiny, impunctate. Epomia absent. Middle lobe of mesoscutum with a few punctures basally. Scutellum impunctate. Mesopleurum with a few fine punctures. Metapleurum with a little coarser punctures as compared to mesopleurum, but punctures not deep. Propodeum basally with a few large scattered punctures. Propodeum medially transversely rugose. Petiolar area a little smoother. Areolet rectangular, 1.5 as wide as high. Second intercubitus absent. Second recurrent vein meeting areolet at its apical 0.33. First abdominal segment 2.0 as long as its apical width, its sternite ending at the level of its spiracle. First tergite shiny, impunctate. Second tergite with moderately sparse punctures, punctures large. Third and fourth tergites basally with close, fine punctures. The following tergites mat. Ovipositor 0.8 as long as the abdomen.

Yellowish-brown. Abdomen brownish-black. Head, scape, and antenna brown, except interrupted inner and outer orbital rings. Clypeus broadly, and labrum, yellow. Wings tinged with fuscous-brown. Legs yellowish-brown, with middle tarsus, hind trochanters, femur, tibia, basal 0.5 of hind basitarsus, and fourth tarsal segment, brown. Abdomen brownish-black. First segment brownish.

Male: Generally similar to the female, the flagellar segments without long hairs but with spines in between. Face wholly yellow. Petiolar area of propodeum yellow. Hind trochanters, femur and basal 0.5 of tibia yellowish-brown. First tergite of the same color as the rest of the abdomen.

Length: 8-10 mm. Fore wing 6 mm.

Holotype: ♀, *Brazil*: Sao Paulo, July 27, 1936, E. J. A. Hambleton, ex cotton stalks infested with *Gasterocercodes gossypii*, No. 27 (Washington).

Allotype: ♂, same locality and data as the holotype (Washington).

Paratypes: 1♀, 1♂, same data as the holotype (Washington).

Distribution: Brazil (map 4).

14. AGONOCRYPTUS LEUROSUS, n. sp.

Female: Face and clypeus finely, transversely striate with punctures in between. Malar space longitudinally aciculate and 0.9 the basal width of mandible. Temple close to malar space aciculate, otherwise smooth and shiny. Frons smooth and shiny, with a few minute superficial punctures. Vertex smooth and shiny, impunctate. Occipital carina away from hypostomal carina by basal width of mandible, pronotum striate, particularly along the sulcus and along posterior margin. Pronotal collar and upper margin with scattered punctures. Mesoscutum smooth and shiny, only the basal area of middle lobe with a few close punctures. Scutellum, mesopleurum, and mesosternum with moderately sparse fine punctures. Metapleurum shiny, with a few fine punctures to moderately deep punctures. Propodeum basally finely wholly striate, centrally striate; petiolar area semicircularly or irregularly striate. Areolet rather wide, about 1.5 to 1.75 as wide as high. Second recurrent vein meeting areolet at its apical 0.4. Nervellus intercepted at its upper 0.45. First abdominal segment shiny, about 2.2 as long as its apical width. First sternite ending at the level of spiracle, 0.5 the length of tergite. Second and third abdominal tergites closely, finely punctate. Abdominal tergites hairy, especially fourth tergite onwards. Ovipositor 0.85 the length of abdomen.

Black with yellow marks. Abdomen reddish. Face, clypeus except its apical margin, labrum, orbital ring, a triangular mark on mesoscutum, scu-

tellum, metascutellum, an interrupted mark on pronotal collar, upper margin of pronotum, apical part of propleurum, tegula, subtegular ridge, a mark below hind wing, a large mark on metapleurum and an inverted T-shaped mark on apical slope of propodeum, yellow. Yellow mark on mesosternum present or absent depending upon the subspecies. Wings hyaline, without fuscous bands. Abdomen reddish-brown either wholly or with yellow and black marks on first and second tergites.

14a. AGONOCRYPTUS LEUROSUS LEUROSUS, subsp. nov.

Female: Characterized by having the second abdominal tergite less strongly punctate, more shiny, and abdomen wholly reddish-brown, without any fuscous or yellow marks. Mesosternum wholly black, without yellow marks. Fore leg yellow with coxa underneath and femur except dorsally, black. Fourth and fifth tarsal segments blackish. Middle coxa yellow dorsally and black ventrally and on the inner side. Femur yellowish-brown with black ventral and lateral lines. Trochanters and tibia yellow. Basal two tarsal segments yellowish-brown and rest black. Hind coxa, trochanters and femur reddish-brown. Hind tibia and basal three tarsal segments yellow, apical two tarsal segments black.

Male: Similar to the female, flagellar segments with long hairs, each segment also with a long spine-like stout seta among the hairs at the apex of the segment, particularly segment four onwards. Frons punctate. Pronotum shiny, with a few striations in the sulcus. Propodeum striato-rugose. Apical transverse carina of propodeum present.

Black with yellow marks. Abdomen a little brownish apically. Antenna black, flagellar segments with yellow marks. Head yellow. Apex of mandible, frons, vertex, and occiput medially black. Pronotal collar, upper part of pronotum, propleurum, a mark on middle lobe of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, a mark behind hind wing, mesopleurum broadly, mesosternum wholly, metapleurum except basal region, and a small T-shaped mark at the apical slope of propodeum, yellow. Coxae and first trochanters of fore and middle legs yellow. Femora and tibia of both legs yellowish-brown. Fourth and fifth tarsal segments of fore leg and all tarsal segments of middle leg brownish-black. Hind leg black with femur lighter in color at base. Wings hyaline, a little clouded apically. First tergite yellow, medially black. Second tergite with an apical yellow band. Third and fourth tergites basally black and apically yellow. The following tergites yellowish-brown.

Length: 14-18 mm. Fore wing 10-14 mm.

Holotype: ♀, *Brazil:* Matto Grosso, Sinap, Oct. 1975, M. Alvarenga (Townes).

Allotype: ♂, *Brazil:* Goias, Jatai, Nov. 1972, F. M. Oliveira (Townes).

Paratypes: 24♂, *Brazil:* Goias, Jatai, 14♂, Nov. 1972, F. M. Oliveira (Townes). Vila Vera, 3♂, Oct. 1973, M. Alvarenga (Townes). Vilhena, Rond, 3♂, Nov. 1977, M. Alvarenga (Townes).

Distribution: Brazil (map 4).

14b. AGONOCRYPTUS LEUROSUS FLAVOSTERNUM, subsp. nov.

Female: Characterized by having the abdomen reddish-brown as in the typical subspecies, but the first tergite has a yellow mark at apex, and two black marks laterally. Second tergite also with a triangular broad apical black

mark. Punctures on second tergite rather strong and more distinct and apical abdominal tergites more hairy, apical tergite blackish in the middle. Mesosternum with yellow marks. Fore leg yellow, coxa with a black ventral mark, trochanter and femur dorsally blackish-brown, apical tarsal segments brownish. Middle coxa reddish-brown with a yellow triangular spot, trochanters yellow, femur black dorsally, apical tarsal segments brownish, rest of middle leg yellowish. Hind coxa, trochanters and femur reddish-brown. Hind tibia and tarsus yellow with apical two tarsal segments brownish.

Male: Similar to that of *leurosus leurosus* except that pronotum shiny, without striations and propodeum striate.

Color similar to that of *leurosus leurosus* except that yellow mark on mesopleurum not extensive and yellow mark on apical slope of propodeum not T-shaped.

Length: 20 mm. Fore wing 16 mm.

Holotype: ♀, *Paraguay*: Villarica, Dec., F. Schade (Cambridge).

Allotype: ♂, *Paraguay*: Carumbe, Feb. 1, 1966, R. Golbach (Townes).

Paratypes: 4♀, 14♂. Same data as the holotype, 3♀ (Cambridge).

Carumbe, 1♂, March 8, 1966, R. Golbach. *Pirareta*, 2♂, Dec. 26, 1971, Luis Peña. *Bolivia*: Altobeni, Palos Blancos, 600 m., 1♂, Luis Peña.

Argentina: Salta Pocitos, 3♂, Jan. 1972, Manfredo Fritz. *Jujuy*, Aguas Calientes, 650 m, 2♂, Dec. 18-20, 1968, L. Peña. *Salta*, Tartagal, 1♂, Jan. 1972, Fritz (Townes). *Argentina*: Formosa, Mision-Aishi, 1♀, Dec. 15, 1948, R. Solbach. *Salta*, Campamento Jakulica, 40 kilometers east of Aguas Blancas, 3♂, C. Porter. *Corrientes* Paso de la Patria, 1♂, Nov. 5-7, 1969, C. Porter (Porter).

Distribution: Paraguay, Bolivia, and Argentina (map 4).

15. AGONOCRYPTUS ERUGATUS, n. sp.

Female: Rather stout species. Face finely striate. Clypeus with a few fine punctures. Malar space aciculate. Frons and vertex smooth and shiny. Occipital carina close to hypostomal carina, but not touching. Pronotum minutely punctate, shiny in between. Pronotal sulcus with wrinkles, which are more prominent in lower half, upper half of groove along hind margin smooth. Mesoscutum smooth and shiny, only the middle lobe at base with a few punctures. Scutellum, mesopleurum and metapleurum with a few fine scattered punctures. Propodeum basad of basal carina smooth and shiny, with a few scattered punctures, area basad of spiracle with crowded punctures. Central area of propodeum with rather weak striations with punctures in between. Striations faded laterally; petiolar area smooth, impunctate. Areolet about 1.5 as wide as high, with recurrent vein meeting areolet in the middle. Nervellus intercepted in its upper 0.45. First abdominal segment 2.0 its apical width. First sternite 0.4 the length of first tergite. All abdominal tergites shiny, impunctate, sparsely hairy dorsally. Tips of seventh and eighth with sparse hairs. Ovipositor 0.67 the length of abdomen.

Black with yellow marks; abdomen reddish-brown. Scape ventrally with two yellow marks. Head yellow. Face with two small marks, two dots along epistomal groove, margin of clypeus, malar space, mandible except basally, frons and vertex medially, and upper half of occiput, black. Thorax black with yellow spots on pronotum dorsally, pronotal collar, upper margin of pronotum, propleurum, a triangular mark at apex of middle lobe of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a mark below hind wing, long oblong areas on meso- and metapleurum, an elongate mark on

mesosternum and an inverted T-shaped mark on propodeum, yellow. Fore and middle legs yellow with their coxae basally black marked, their femora dorsally brownish-black and apical three tarsal segments brownish-black. Hind coxa yellow with a large brownish spot basoventrally and along inner side. Hind trochanters and femur reddish-brown, tibia and tarsus yellow with apical two tarsal segments dark brown; apex of femur fuscous dorsally. Wings hyaline. First abdominal segment yellow with a black subapical irregular mark. Second tergite with a triangular basal yellow mark, an apical yellow stripe, and two irregular yellow spots on sides, also with two triangular and linear black marks between the yellow and brownish color of the tergite. Third tergite with an elongate black basal mark and two yellow spots basolaterally. Apex of abdomen brownish-black. Intersegmental membranes yellow.

Male: Very slender as compared to the female. Flagellar segments with long hairs; each segment with a long spine-like seta at its apex, particularly from fourth flagellar segment onwards. Sculpture generally similar to female but frons with a few punctures. Pronotum smoother. Propodeum basally with sparse scattered punctures and a few striations, centrally striate between basal and apical transverse carinae. Petiolar area of propodeum longitudinally and irregularly striate (in some males smoother).

Black with yellow marks. Scape with a small yellow mark. Flagellar segments 10 to 13 dorsally yellow. Color of thorax similar to that of female except that black marks on face are absent and yellow mark on propodeum very small. Fore and middle legs yellow with their femora, tibia and tarsi reddish-brown. Middle tarsus blackish. Hind coxa yellowish-brown, dorsally with a dark brown line, femur dark brown, trochanters, tibia and tarsus (except second and third segments), blackish, second and third segments white, second often partly blackish. Wings hyaline. First abdominal segment yellow apically and basally, medially black. Second segment black in basal 0.75. Third and often the fourth basally black. Rest of tergites reddish-brown with their bases a little darker.

Length: 8-20 mm; fore wing 5-16 mm.

Holotype: ♀, *Panama:* Canal Zone: Margarita, Feb. 1960, S. Breeland (Townes).

Allotype: ♂, same locality and collector as the holotype, March 1960 (Townes).

Paratypes: 4♂. Same data as allotype, 2♂, *Colombia:* Rio Atrato Camp Sautata, 1♂, Nov. 11-Dec. 14, 1967. *Panama:* Barro Colorado Is., 1♂, March 11-31, 1963, C. & M. Rettenmeyer (Townes).

Distribution: Panama and Colombia (map 4).

V. THE AMOENUS GROUP

This group is characterized by having the frons smooth; face smooth to finely striate; vertex smooth; occipital carina deflected inwards either strongly (pointed towards base or middle of hypostomal carina) or weakly (in *tricolor*), coming very close to joining hypostomal carina, or erased for a distance equal to the basal width of mandible; postgenal area somewhat flattened and widened and separated from the lower portion of gena by a crease (seen in profile). Mesoscutum smooth. Thorax generally smooth. Propodeum striate (except in *tricolor*). Apical transverse carina of propodeum absent in females and present in males (of *tricolor* only known). Sometimes transverse carinae at the junction of yellow and black color prominent and appearing like transverse carina, though not

really present. Abdomen smooth or with scattered minute punctures, particularly on second and third tergites. Petiole long and slender, rounded in cross-section near its base. Length of first abdominal segment about 3.0 its apical width (a little shorter in *admirandus*, about 2.75 x), its sternite long and extending to 0.70 to 0.8 the length of tergite. Ovipositor about half the length of abdomen (0.5-0.65).

This group includes *A. admirandus* Cresson from Mexico and three new species, *amoenus* and *tricolor* from Brazil and *bispotus* from Mexico (Map 5). *A. admirandus* can be readily distinguished by having the prepectal carina short, extending only in the lower 0.5 of mesopleurum; occipital carina erased for a distance about 0.75 the basal width of mandible; pronotum punctate with area along its hind margin wrinkled, epomia absent, first abdominal sternite extending to 0.65 the length of tergite, and hind femur largely black. All other species have the prepectal carina extending up to 0.8 the height of mesopleurum. *A. amoenus* is distinctive in having the occipital carina strongly deflected inwards and coming very close to hypostomal carina near its base rather than in the apical region; pronotum smooth, epomia absent, groove along hind margin wrinkled first sternite long, extending to a distance about 0.8 the length of tergite, abdominal tergites without hairs. Hind femur with extensive blackish marks. In all other species of this group the apical abdominal tergites are beset with conspicuous hairs.

A. bispotus is the only species of this group with epomia. It has the occipital carina deflected inwards but is erased for a distance equal to the basal width of mandible, pronotum punctate in the middle groove and striate along hind margin, first sternite about 0.75 the length of its tergite, hind femur largely yellow, and the speculum yellow (as is the case in *admirandus*, while in other species it is black). *A. tricolor* is the only species in which the propodeum is smoother in the female, with only a few trans-striations centrally. In male the propodeum is striate and the apical transverse carina is distinct. It has the occipital carina erased as in *bispotus*, but not deflected inwards, pronotum with minute scattered punctures, groove along hind margin smooth, epomia absent, first sternite extending up to 0.75 the length of its tergite, and hind femur red.

The males have the occipital carina a little closer to the hypostomal carina and the hind leg largely black. They also have large hairs on the antennal flagellum. White marks on flagellar segments are present dorsally or absent, but not forming a complete ring.

16. AGONOCRYPTUS ADMIRANDUS (Cresson)

Mesostenus (Mesostenus) admirandus Cresson, 1873, Proc. Acad. Nat. Sci. Philadelphia, 1873: 155. ♀. key, des. Type: ♀, Mexico: Orizaba (Philadelphia).

Agonocryptus admirandus: Townes, 1946, Bol. Ent. Venezolana, 5: 31.
Townes, 1966. Mem. Amer. Ent. Inst. 8: 128.

Female: Face and clypeus shiny with a few fine striations. Frons shiny with a few fine punctures close to ocelli. Vertex medially with a few superficial punctures. Malar space granulose, equal to the basal width of mandible. Temple smooth and shiny, a little granulose close to malar space. Occipital carina erased for a distance about 0.75 the basal width of mandible. Mesoscutum shiny, with scattered punctures. Pronotum with scattered punctures. Pronotal sulcus with a few striations. Scutellum punctate. Mesopleurum and

metapleurum shiny and with scattered superficial fine punctures. Mesopleurum just below subtegular ridge striate. Prepectal carina reaching 0.5 the height of mesopleurum. Propodeum basally between the two yellow marks semicircularly striate, punctate basolaterally just above the spiracle; centrally punctostriate. Petiolar area of propodeum laterally punctate, in the middle shiny and with a few trans-striations. Areolet pentagonal, wider than high. Second recurrent vein meeting areolet at its middle. Nervellus intercepted at its upper 0.33. First abdominal segment slender, nearly 2.75 x its apical width, impunctate. First sternite extending up to 0.7 its length. Second abdominal tergite with fine scattered superficial punctures medially and submedially. Third tergite basally finely and closely punctate. The following tergites finely mat. Ovipositor about 0.65 the length of abdomen.

Black with yellow marks and bands. Head (including face) yellow except frons, vertex and occiput medially, malar space, clypeal margin and apex of mandible, black. The following parts are yellow: A mark on pronotal collar, upper part of pronotum, propleurum apically, a central mark on mesoscutum, scutellum and metascutellum wholly, tegula, subtegular ridge, speculum, a mark below wings, mesopleurum, metapleurum and mesosternum broadly, two squarish marks at base of propodeum, and a dagger-shaped mark at the apical area of propodeum (this mark reaching up to basal transverse carina). Fore and middle legs yellow, except coxa, trochanters and femur dorsally with black line, their tarsi brownish. Hind coxa yellow with two lateral longitudinal black lines. Hind trochanters and femur black with a yellow longitudinal ventral line, third tibia and tarsus yellow. Wings hyaline, first abdominal tergite yellow with a subapical black mark. Second tergite with a triangular yellow basal mark, its sides with yellow marks connected to the apical transverse yellow band. All other abdominal tergites with yellow apical bands, their sides also yellow. Seventh and eighth tergites broadly yellow laterally, with the eighth tergite black up to the apex.

Male: Unknown.

Length: 18mm; fore wing 12 mm.

Specimen examined: Mexico: 1♀ (type) (Philadelphia).

The locality label on specimen does not state precise type-locality.

Distribution: Mexico (map 5) .

17. AGONOCRYPTUS AMOENUS, n. sp.

Female: Face and clypeus shiny, impunctate with face finely trans-striate in the middle. Malar space granulose. Frons and vertex shiny, impunctate. Temples smooth and shiny. Pronotum shiny, impunctate. Epomia absent. Mesoscutum shiny, impunctate. Mesopleurum and metapleurum shiny with a few scattered fine and superficial punctures. Prepectal carina 0.8 the height of mesopleurum. Propodeum finely distinctly striate, striations arched and areas in between shiny. Area basad of basal carina semicircularly striate, particularly in the central basal area. Areolet pentagonal, wider than high. Second recurrent vein meeting areolet at its apical 0.4. Nervellus intercepted at its upper 0.33. Abdomen wholly smooth and shiny, without punctures. First abdominal segment 3.0 its apical width and slender, its sternite reaching up to 0.75 the length of its tergite, ovipositor about 5.3 x the length of abdomen.

Black with yellow marks and bands. Head (including face) yellow with apex of mandible, with frons, vertex, and occiput medially, black. Pronotal collar near neck and upper margin of pronotum yellow. A central mark on

mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, a mark below wings, mesopleurum broadly, mesosternum wholly, upper 0.75 of metapleurum, two rectangular marks at base of propodeum and a dagger-shaped mark at the apical area of propodeum, yellow speculum black. Fore leg with coxa, trochanters, and femur yellow with femur dorsally darker, its tibia and tarsus yellowish brown. Middle leg with coxa, first trochanteral segment and femur yellow, with coxa marked black ventrally and femur dorsally. Second trochanteral segment black and tibia and tarsus brown. Hind leg with coxa yellow with a dorsal black line, its trochanters black, basal 0.5 of femur and 0.25 of tibia yellow. Hind tarsus yellow. Wings hyaline.

Male: Unknown.

Length: ♀, 18 mm. Fore wing 12 mm; ovipositor 0.55 as long as abdomen.

Holotype: ♀, *Brazil:* Matto Grosso, Sinop, 12° 31' S, 55° W, Oct. 1975, M. Alvarenga (Townes).

Distribution: Brazil (map 5).

18. AGONOCRYPTUS BISPOTUS, n. sp.

Female: Face and clypeus shiny, impunctate, area just below antennal socket with a few striations. Malar space granulose. Frons and vertex shiny, impunctate. Occipital carina erased for a distance equal to the basal width of mandible. Pronotum with scattered fine punctures (especially in the sulcus). Pronotal collar impunctate. Epomia present. Mesoscutum smooth and shiny, impunctate. Scutellum, mesopleurum and metapleurum mostly shiny, with a few fine punctures. Prepectal carina 0.8 the height of mesopleurum. Propodeum trans-striate, striations not very close, interspaces with punctures. Area basad of basal carina with weak striations. Striations in the petiolar area rather strong. Areolet wider than high. Second recurrent vein meeting areolet in its apical 0.33. Nervellus intercepted at its apical 0.33. First abdominal segment slender, nearly 3.0 its apical width, its sternite extending up to 0.75 the length of its tergite. First abdominal tergite shiny, impunctate. Second tergite medially finely punctate. Third also finely punctate. The following tergites smooth. Ovipositor about 0.5 the length of abdomen.

Black with yellow marks and bands. Head yellow except frons, vertex and occiput medially and apex of mandibles black. Pronotum along its collar and upper margin broadly, propleurum except basally, a rectangular mark on mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a mark below wings, mesopleurum, mesosternum and metapleurum broadly, two squarish marks at base of propodeum and a dagger-shaped mark at apical slope of propodeum, yellow. Legs yellow, except all coxae dorsally black marked. Hind trochanters black. Hind femur and tibia apically darker. Hind tarsus whitish-yellow. Fore and middle trochanters and femur dorsally darker. Wings hyaline. First abdominal tergite with a sub-basal bifurcated mark. All abdominal tergites except the eighth, with yellow apical bands. Second and third tergites with sub-basal lateral spots. Sides of third to seventh tergites yellow. Eighth tergite wholly black.

Male: Unknown.

Length: 18 mm; fore wing 12 mm.

Holotype: ♀, *Mexico:* Oaxaca, Metate, 85.5 kilometers south of Tuxtepec, 900 m, Oct. 16, 1962, H. & M. Townes (Townes).

Distribution: Mexico (map 5).

19. AGONOCRYPTUS TRICOLOR, n. sp.

Female: Face and clypeus shiny. Face submedially, below antennal socket with a few striations. Clypeus with a few fine striations laterally. Malar space granulose, equal to the basal width of mandible. Frons and vertex smooth and shiny. Occipital carina erased for a distance, away from the hypostomal carina (as in *bispotus*), but this carina not deflected inwards; this area appears rough. Pronotum with minute scattered punctures, its hind margin smooth. Epomia absent. Mesoscutum shiny, impunctate. Scutellum, mesopleurum and metapleurum shiny and with a few scattered punctures. Prepectal carina 0.8 the height of mesopleurum. Propodeum smooth with area apicad of basal transverse carina with weak striations interposed with shallow punctures. (Sides of propodeum smooth, and whole propodeum much more shiny than in other species of this group.) Areolet much wider than high. Second recurrent vein meeting areolet at its middle. Nervellus intercepted at its upper 0.33. First abdominal segment smooth and shiny, slender, 3.0 its apical width, its sternite extending to 0.75 the length of its tergite. Second tergite with minute scattered punctures sub-basally. Third tergite finely punctate. The following tergites smooth and shiny. Ovipositor about 0.6 the length of abdomen.

Black, marked with yellow. Abdomen reddish-brown. Head yellow except frons, vertex and occiput medially, malar space and apex of mandible, black. A rectangular mark on mesoscutum, two marks on pronotal collar, upper edge of pronotum, propleurum apically, scutellum, metascutellum, tegula, subtegular ridge, an oblong (somewhat L-shaped) mark on mesopleurum, a mark on mesosternum, an oblong mark on metapleurum, two oval marks on basal area of propodeum, and a dagger-shaped mark on apical slope of propodeum, yellow. Speculum black. Fore and middle legs yellow except their coxae, trochanters and femora dorsally black. Hind coxa, trochanters, and femur reddish-brown with coxa dorsally with a yellow oval mark and a black line on its outer side. Hind tibia and tarsus yellowish, with last tarsal segment black. Wings hyaline. First tergite yellow basally and apically, medially black. The rest of the tergites reddish-brown with tip of abdomen black.

Male: Generally similar to the female. Flagellar segments with long hairs. Each segment also with long spine-like stout seta amongst the hairs at the apex of the segment, particularly from fourth onwards. Frons punctate. Pronotum shiny, Propodeum centrally with strong striations. Apical transverse carina present.

Color black with yellow marks. Antenna black, without yellow mark dorsally. Head yellow. Apex of mandible, frons, vertex and occiput medially black. Pronotal collar, pronotum, propleurum, a mark on middle lobe of mesoscutum, scutellum, metascutellum, tegula, subtegular ridge, speculum, a mark behind hind wing, mesopleurum broadly, mesosternum wholly, metapleurum except basal region, and petiolar area of propodeum, yellow. Fore and middle coxae and first trochanters yellow, their femora and tibiae yellowish-brown. Fore tarsus basally yellow, apically black. Middle tarsus black. Hind coxa black, apically yellow, their trochanters, femur, tibia and tarsus black. Hind femur lighter in color basally. Wings hyaline, apically a little fuscous. Abdomen black, with first tergite basally and apically, and the following tergites apically and apicolaterally yellowish-brown.

Length: 10-18 mm. Fore wing 10-14 mm.

Holotype: ♀, *Brazil:* Matto Grosso, Sinop, 12° 31' S. 55° 37' W., Oct. 1975, M. Alvarenga (Townes).

Allotype: ♂, same data as the type (Townes).

Paratypes: 27♂, same data as the type, collected October 1974, 75, and 1976 (Townes).

Distribution: Brazil (map 5).

VI. THE RUGIFRONS GROUP

The Rugifrons Group is characterized by having the frons rugose; face trans-striate to somewhat rugoso-striate; vertex punctate or sparsely so; whole of thorax including propodeum strongly punctate; and whole of abdomen punctate. In males the first tergite is smoother or more sparsely punctate and thorax also somewhat less strongly punctate.

This group includes *A. rugifrons* with clear wings, reddish abdomen and body with yellow marks; *A. mulleus*, with clear wings, and body wholly reddish-brown; and *A. fumosus* and *A. infuscatus* with blackish-brown wings, reddish thorax and black abdomen. They occur in Argentina and Brazil.

20. AGONOCRYPTUS RUGIFRONS, n. sp.

Male and Female: Face trans-striate with punctures in between. Face centrally strongly rugose. Clypeus granulate, with scattered punctures, its apical margin with a minute median tooth. Malar space as long as the basal width of mandible, granulate. Temple smooth and shiny. Frons rugose. Vertex punctate. Occipital carina incurved and meeting hypostomal carina. Pronotum punctate, its sulcus trans-striate. Epomia absent. Mesoscutum closely and deeply punctate. Scutellum sparsely, superficially punctate. Mesopleurum, metapleurum, and propodeum wholly strongly punctato-rugose. Apical transverse carina of propodeum interrupted medially. Areolet rectangular, about 1.4 as wide as high. Second recurrent vein meeting areolet distad of its middle. Nervellus intercepted about the middle. First tergite less than 2.0 its apical width, its sternite ending at the level of spiracle, about 0.5 the length of its tergite. All tergites punctate. First tergite closely and deeply punctate medially. Second and third tergites mat and with compact deep punctures. The following tergites with finer punctures and finely mat. Ovipositor equal to the length of abdomen.

Black with yellow marks. Abdomen reddish-brown to blackish-brown. Head black, except for basal half of clypeus, labrum, and a broad interrupted orbital ring. A mark on mesoscutum, scutellum, metascutellum, interrupted pronotal collar, upper part of pronotum, tegula, subtegular ridge, speculum, a small mark on apical corner of mesopleurum, a mark below wings, an elongate mark on dorsal part of metapleurum, and an inverted T-shaped mark on petiolar area of propodeum (which does not reach the basal transverse carina), whitish-yellow. Wings hyaline. Legs reddish-brown, with fore coxa and first trochanter dorsally and hind tarsal segment yellowish-white. Abdomen largely brown. First tergite apically with a broad white band. The following tergites with a narrow white band. Color of abdominal tergites variable from reddish-brown to blackish brown.

Length: 16 mm. Wings 10 mm.

Holotype: ♀, *Argentina*: Jujuy, Jan. 16, 1966, H. & M. Townes (Townes).

Allotype: ♂, same data as the type (Townes).

Paratypes: 32♀, 33♂, *Argentina*: from Horco Molle (near Tucuman), Calalao, San Pedro de Tucuman, Jujuy, El Pintado, Al Tola Vina, Salta,

Yacochuya (Tafayata), Tacuil, Angastaco, San Miguel de Tucuman, Amaicha del Valle, Aguas Blancas, Trances Tacanas, and Arnau. Collected on various dates during January, February, March, April, September, October, November, and December (Townes, Cambridge and Ottawa).

Distribution: Various localities near Tucuman, Argentina (map 6).

21. AGONOCRYPTUS MULLEUS, n. sp.

Female: Face rugose. Clypeus rough, with a few striations apicolaterally, its margin with a median apical tooth. Malar space aciculate, 0.8 as long as the basal width of mandible. Temple shiny, with a few superficial punctures close to malar space. Frons rugose. Vertex punctate medially, punctures not deep. Occipital carina not meeting hypostomal carina. Pronotum deeply and closely punctate, punctures running into striations along the sulcus and along hind margin. Epomia absent. Mesoscutum and scutellum closely and deeply punctate, appearing rugose at places. Mesopleurum, metapleurum and propodeum wholly strongly punctato-rugose. Apical transverse carina of propodeum broadly interrupted medially. Areolet pentagonal, about 1.4 as wide as high. Second recurrent vein meeting areolet at its apical 0.4. Second intercubitus unpigmented. Nervellus intercepted at its upper 0.4. First tergite not stout, 2.0 as long as its apical width. First sternite ending at the level of spiracle, about 0.5 as long as the tergite. First tergite shiny, with a few scattered punctures medially. Second and third tergites finely, closely punctate. The following tergites finely mat. Ovipositor 0.5 as long as the abdomen.

Reddish-brown. Scape and basal flagellar segments reddish-brown. Narrow (interrupted) inner and outer orbital rings, labrum, pronotal collar and propleurum centrally, and tegula, white. Wings hyaline. Basal tarsal segments of middle and hind legs white. Apical tarsal segments blackish.

Length: 15 mm. Fore wing 10 mm.

Male: Unknown.

Holotype: ♀, *Argentina:* Misiones, Leandro N. Alem., Inst. Alberdi, Nov. 17-19, 1969, C. Porter (Porter).

Distribution: Argentina (map 6).

22. AGONOCRYPTUS INFUSCATUS, n. sp.

Female: Face and clypeus transversely striate, with punctures in between. Clypeal margin with a median minute tooth. Malar space strongly granulose, as long as the basal width of mandible. Temple smooth and shiny, near malar space finely striate. Frons rugose. Vertex sparsely punctate, punctures rather shallow. Occipital carina not meeting hypostomal carina. Pronotum deeply and closely punctate. Pronotal sulcus without any striations. Epomia absent. Mesoscutum and scutellum closely punctate. Mesopleurum punctate. Area below subtegular ridge a little striate. Speculum shiny, with fine scattered punctures. Metapleurum punctate to striato-punctate. Basal area of propodeum sparsely punctate. Apical transverse carina present only on sides. Area between basal and apical transverse carinae striato-punctate. Petiolar area shiny, with a few longitudinal striations. Areolet rectangular, 1.5 as wide as high. Second recurrent vein meeting areolet at its apical 0.3. Nervellus intercepted above its middle. Petiole stout, nearly 2.0 as long as its apical width. First sternite reaching spiracle. Abdominal tergites punctate. First tergite punctate strongly on apical half. Second, third and fourth

tergites closely punctate. The following tergites mat. Ovipositor 0.7 as long as the abdomen, its tip pointed, narrow and tapering, with seven teeth.

Reddish-brown with black abdomen. Head reddish-brown. Face reddish-brown, without yellow orbital stripes. Malar space and mandibles black. Wings strongly infuscate. Legs black except coxae. Fore femur ventrally and tibia dorsally, brownish. Hind femur black. Second and third hind tarsal segments yellow. Abdomen black with only the first tergite basally brown.

Length: 18 mm. Fore wing 12 mm.

Male: Unknown.

Holotype: ♀, *Brazil*: Nova Teutonia, Santa Catarina, Oct. 1970, F. Plaumann (Townes).

Paratype: ♀, same data as the holotype, but Nov. 1970 (Townes).

Distribution: Brazil (map 6).

This species is rather close to *A. rufithorax* in general appearance, but can be differentiated by the structure of frons, first tergite, nature of ovipositor teeth, absence of apical transverse carina of propodeum, and also by the color of malar space, orbital rings, hind tarsus and wings.

23. AGONOCRYPTUS FUMOSUS, n. sp.

Female: Face finely transversely striate, with a few rugosities in the middle. Clypeus finely striate, its apical margin with a median tooth. Malar space granulate, with a few longitudinal striations, about as long as the basal width of mandible. Temple similar to that of *infuscatus*. Frons rugose. Vertex closely and finely punctate. Occipital carina meeting hypostomal carina. Epomia absent. Pronotum punctate. Pronotal sulcus punctato-striate. Mesoscutum closely and deeply punctate. Scutellum sparsely punctate. Mesopleurum finely and closely punctate, area below subtegular ridge punctato-striate. Metapleurum deeply and closely punctate. Apical transverse carina of propodeum absent or merged into striations on propodeum. Propodeum punctato-striate. Petiolar area smooth and with a few longitudinal ridges. Wings and abdomen as in *A. infuscatus*. Ovipositor tip blunt, not tapering, and with only 5 teeth. Ovipositor 0.6 as long as the abdomen.

Reddish-brown with head and abdomen black. Face black, with yellow. Interrupted orbital rings. Wings infuscate. Fore leg black with femur ventrally and tibia yellowish-brown. Middle coxa reddish-brown, trochanters black, and rest of middle leg brownish. Hind coxa and femur reddish-brown; trochanters, femur apically, tibia, basal half of basitarsus, and fifth tarsal segment, black. Hind tarsus otherwise yellow. Abdomen black, with first tergite reddish-brown.

Male: Rather similar to the female, with pronotal groove smoother, fore leg lighter in color and abdomen brown rather than black.

Length: ♀, 18 mm. Fore wing 12 mm. Male 13 mm. Fore wing 8-10 mm.

Holotype: ♀, *Brazil*: Nova Teutonia, Santa Catarina, April 14, 1952, F. Plaumann (Townes).

Allotype: ♂, *Argentina*: La Plata, Dec. 18, 1965, H. & M. Townes (Townes).

Paratypes: 4♂, 3♀. *Argentina*: La Plata, 1♂, Dec. 18, 1965, H. & M. Townes (Townes). Berisso, 1♂, Dec. 8, 1965, H. & M. Townes. Mar del Plata, Prov. Buenos Aires, 1♀, Nov. 1, 1949 (Townes). Buenos Aires, Abra de la Ventana, 1♀, Feb. 6, 1947 (Porter). *Brazil*: Nova Teutonia, Santa Catarina, 1♂, Nov. 11, 1952, 1♂, Nov. 1955, F. Plaumann (Townes); 1♀,

April 26, 1960 (Porter).

Distribution: Brazil and Argentina (map 6).

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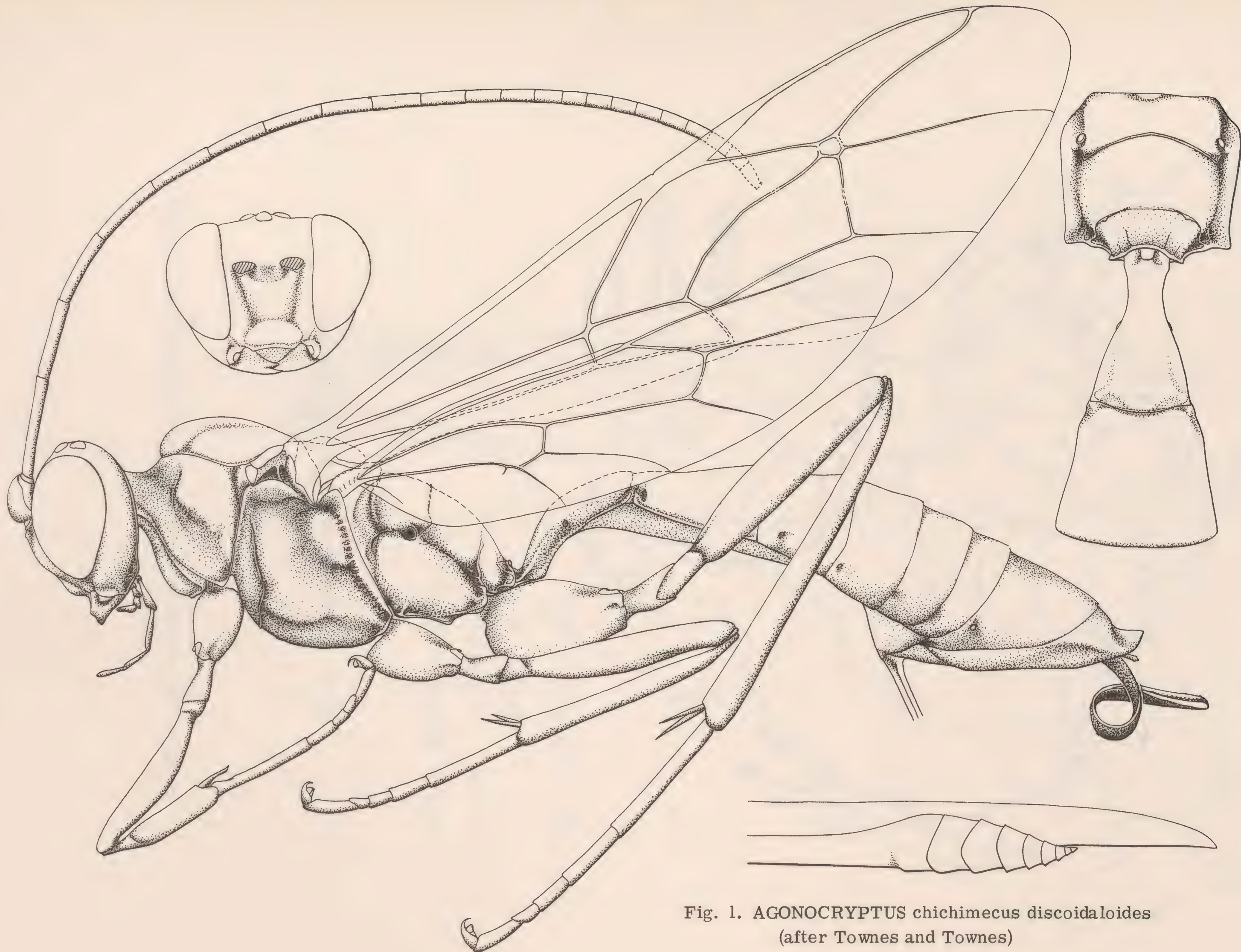


Fig. 1. AGONOCRYPTUS chichimecus discoidaloides
(after Townes and Townes)



Map 1. AGONOCRYPTUS - Chichimecus Group



Map 2. AGONOCRYPTUS - Chichimecus Group, Heathi Group



Map. 3. AGONOCRYPTUS - Physocnemis Group



Map. 4. AGONOCRYPTUS - Varus Group

Map 5. AGONOCRYPTUS - Amoenus Group





Map 6. AGONOCRYPTUS - Rugifrons Group